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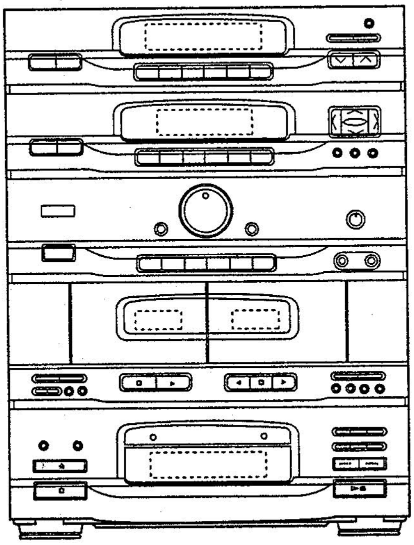
UNIVERSUM

SERVICE MANUAL
MODEL: VTC 4631

HI-FI MUSIC CENTER WITH COMPACT DISC PLAYER



SPECIFICATION

GENERAL
Power Consumption : 150W
Dimension : 360 x 475 x 270(WHD)
Weight : 9.6Kg
Power source : See the label rating

RADIO
LW BAND
Frequency Range : 146KHz~290KHz
Usable Sensitivity : 1000μV
Signal to Noise Ratio : 35dB

AM(MW) BAND
Frequency Range : 522KHz~1611KHz
Usable Sensitivity : 600μV
Signal to Noise Ratio : 40dB

FM BAND
Frequency Range : 87.5MHz~108.0MHz
Usable Sensitivity : 6μV
Signal to Noise Ratio : 55dB
Total Harmonic Distortion : 0.8%
Separation (W/IHF A) : 35dB

TAPE RECORDER
RECORD/PLAYBACK
Frequency Range : 125Hz~12.5KHz
Signal to Noise Ratio : 45dB
Separation : 35dB
Total Harmonic Distortion : 2%
Erasing Effect : 65dB
Wow & Flutter(JIS) : 0.15%

COMPACT DISC PLAYER
Frequency Range : 20Hz~20KHz
Signal to Noise Ratio : 80dB
Total Harmonic Distortion : 0.08%
Channel Separation : 60dB
D/A Conversion : 16 bits

* ***Design and specifications are subject to change upon improvement without prior notice.***
* ***Frequency range in radio section can be a little different from the above in accordance with frequency step or region.***

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■ SAFETY PRECAUTION

1. CLASS 1 LASER PRODUCT

This compact disc player is classified as a CLASS 1 laser product.

2. LASER WARNING LABEL

The label shown below may be affixed or not according to country.

(UL)

This Product Compiles with DHHS Rules 21CFR, Sub chapter J.At date of Manufacture.

(CSA)

CERTIFIED ONLY TO CANADIAN ELECTRICAL CODE.

CERTIFIE EN VERTU DU CODE CANADIAN DE LELETRICITE SEULEMENT

(EU)

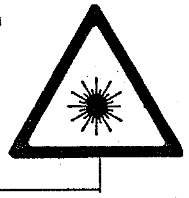
CLASS 1
LASER PRODUCT

Location : Enclosure back.

(SCAN)

ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLING.

(EU)



UL : Manufactured for U.S.A. Market.
CSA : Manufactured for Canadian Market.
EU : Manufactured for European Market
SCAN : Manufactured for Scandinavian Market.

Location : on the disc clamper or inner side of CD door or nearby CD chassis.

3. LASER BEAM WARNING

ADVERSEL — USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.

VARNING — OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRALEN ÄR FARLIG.

VARITUS — LAITE SISÄLTÄA LASERDIODIN, JOKA LÄHETTÄÄ NÄKYMÄTÖNTA SILMILLE VAARALLISTA LASERSATEILYÄ.

CAUTION — INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

4. LASER DIODE SPECIFICATION (OPTICAL PICK-UP)

- Material: AlGaAs
- Wavelength: 760-800nm
- Emission duration: Continuous
- Laser Output: 0.2mW
- * This output is the value measured at distance 1.6mm from the objective lens surface on the optical pick-up block.
- Classification: CLASS 1

5. WARNING FOR SERVICING

WARNING: When servicing, do not approach the LASER exit with the eye too closely. In case it is necessary to confirm LASER beam emission, be sure to observe from a distance of more than 30cm from the surface of the objective lens on the optical pick-up block.

VARNING: När underhållningsarbeten utförs, närma dig försiktigt och se inte på laserutstrålningen på för näre häll. Ifall det är nödvändigt att betrygga laserstrålens utströmning. Var säker att kontrollera detta från ett avstånd av mer än 30cm (11.81 inch.) från den objektiva linsens yta på den optiska utsåndningspunkten.

ADVARSEL: När repareringsarbejdet udfoeres, naerm dig forsigtigt og se ikke på laserudstrålingen på for naer hånd. It ilfaeldet at det er noedvaendigt at bestemme laserstrålens udstråling. Vaer sikker på kontrollere dette fra en afstand af mere end 30cm (11.81 inch.) fra den objektive linses overflade på den optiske udsendningspunkt.

VAROITUS: Silmiä on varottava viemästä liian läbeiie Laser-poistokanavaa huoiion aikana. Jos on välttämätöntä varmistaa Laser-Säteen päästö, pysyttels sitä tarkasteltaessa vähintään 30cm etäiyydellä optisen lukon objecktiivilinssin pinnasta.

SERVICING NOTE

1. Disconnect power supply cord before separating cabinet for servicing as you may experience an electric shock.
2. Avoid repairing under direct sunshine and heat which may cause cabinet, transistor and IC to be transformed or misoperate.
3. Use a soft cotton swab moistened with warm water or neutral cleaner when parts of a unit need to be cleaned.
4. When replacing parts with safety features built in, be sure to use specified parts with same specifications only.
5. Avoid repairing the set near a TV or any other magnetic forces.
6. Disconnect the plug from wall socket during electric storm to reduce the risk of damage.
7. Be careful of electrostatic damage when replacing the control IC such as µ-COM, LSI and pick-up.
8. Be sure not to separate the pick-up from the unit and not to touch the ALPC (Automatic Laser Power Control) circuit.

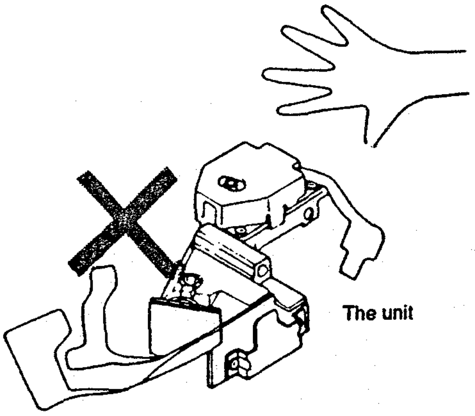
HANDLING THE OPTICAL PICK-UP

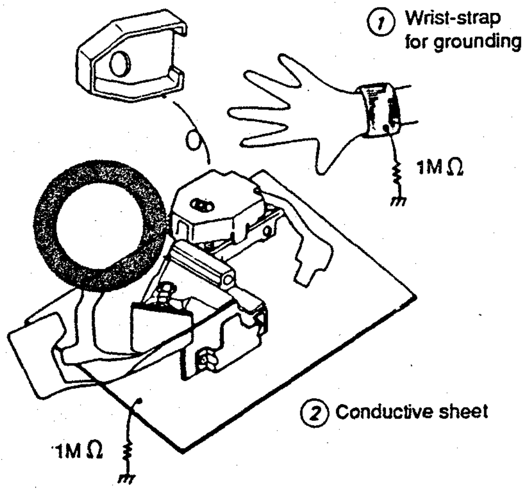
* The laser diode in the optical pick up may suffer electrostatic breakdown because of potential static electricity from clothing and your body.

The following method is recommended.

1. Place a conductive sheet on the workbench. (The black sheet used as wrapping for repair parts.)
2. Place the set on the conductive sheet so that the chassis is grounded to the sheet.
3. Place your hands on the conductive sheet. (This gives them the same ground as the sheet.)
4. Remove the optical pick up block.
5. Perform work on top of the conductive sheet.
   Be careful not to let your clothes or any other static sources touch the unit.

* Be sure to put on a wrist-strap grounded to the sheet.
* Be sure to lay a conductive sheet made of copper etc. which is grounded to the table.

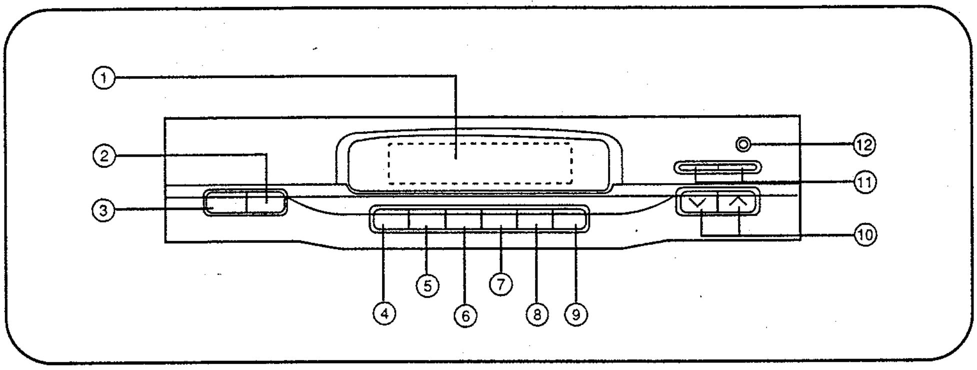




LOCATION OF CONTROLS

1. FRONT VIEW

TUNER/TIMER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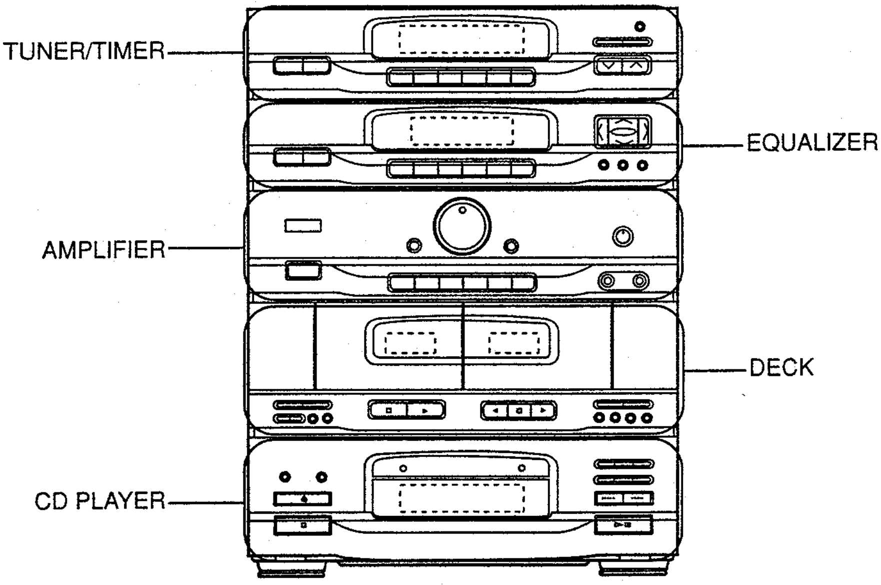
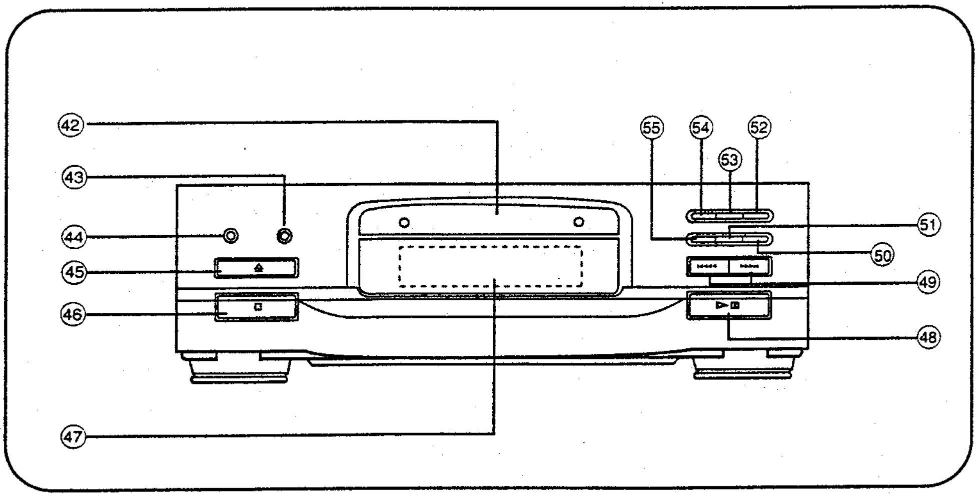

TUNER/TIMER
EQUALIZER
AMPLIFIER
DECK
CD PLAYER

CD PLAYER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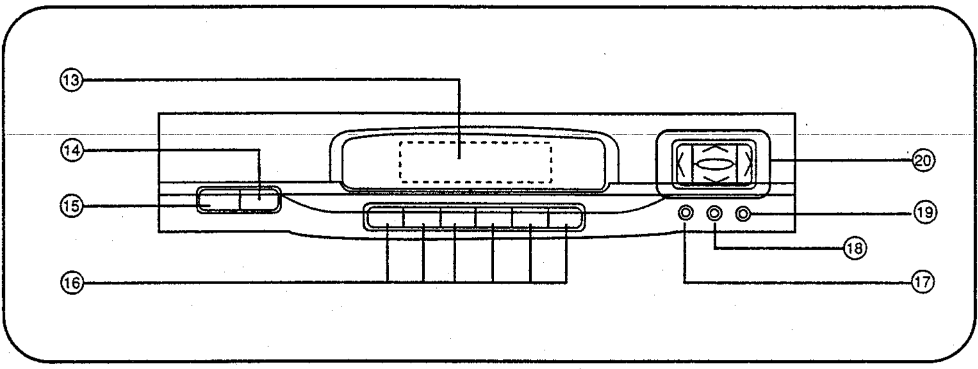
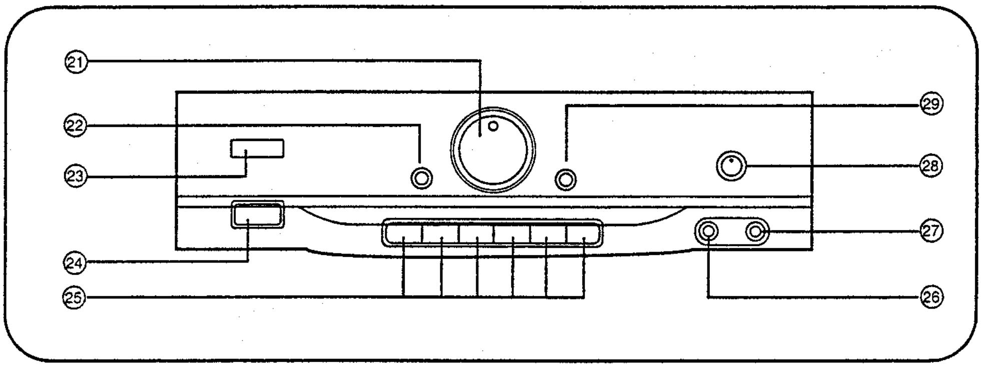
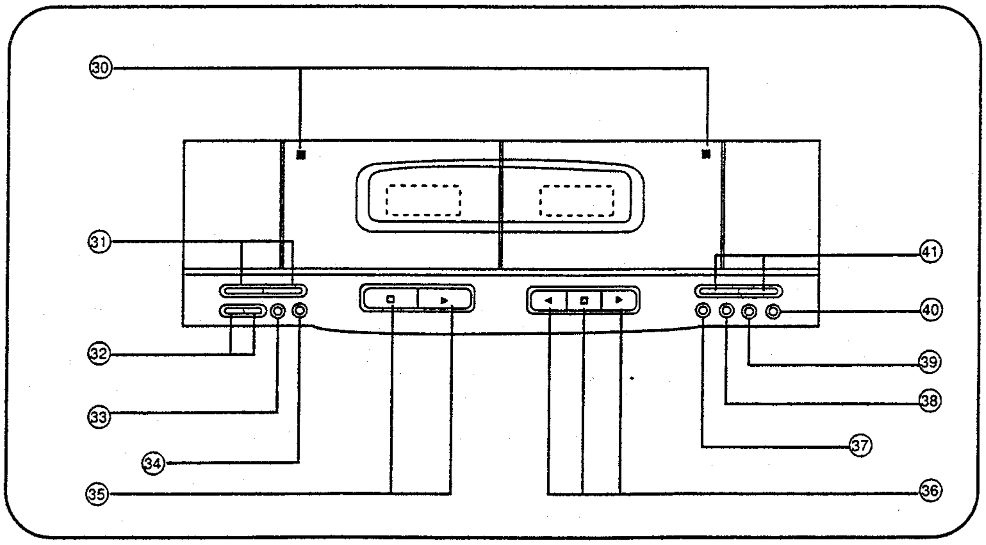
EQUALIZER



AMPLIFIER



DECK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1. FRONT VIEW

TUER/TIMER

1. TUNER/TIMER DISPLAY
2. FM MODE (STEREO/MONO) BUTTON
3. BAND BUTTON
4. CLOCK SET BUTTON
5. TIMER SET BUTTON
6. TIMER CHECK BUTTON
7. TIMER ON/OFF BUTTON
8. SLEEP BUTTON
9. MEMORY BUTTON
10. TUNING UP/DOWN BUTTON
11. PRESET UP/DOWN BUTTON
12. PRESET SCAN BUTTON

EQUALIZER

13. EQ DISPLAY
14. DISPLAY MODE BUTTON
15. EQ ON/FLAT BUTTON
16. EQ PRESET BUTTON
17. EQ MEMORY BUTTON
18. USER BUTTON
19. PRESET BUTTON
20. EQ LEVEL UP/DOWN, FREQUENCY LOW/HI BUTTON

AMPLIFIER

21. VOLUME CONTROL
22. SURROUND ON/OFF BUTTON
23. REMOTE SENSOR
24. POWER ON/STANDBY BUTTON
25. FUNCTION SELECTOR BUTTON
26. MIC JACK
27. HEAD PHONE JACK
28. BALANCE CONTROL
29. SUPER BASS BUTTON

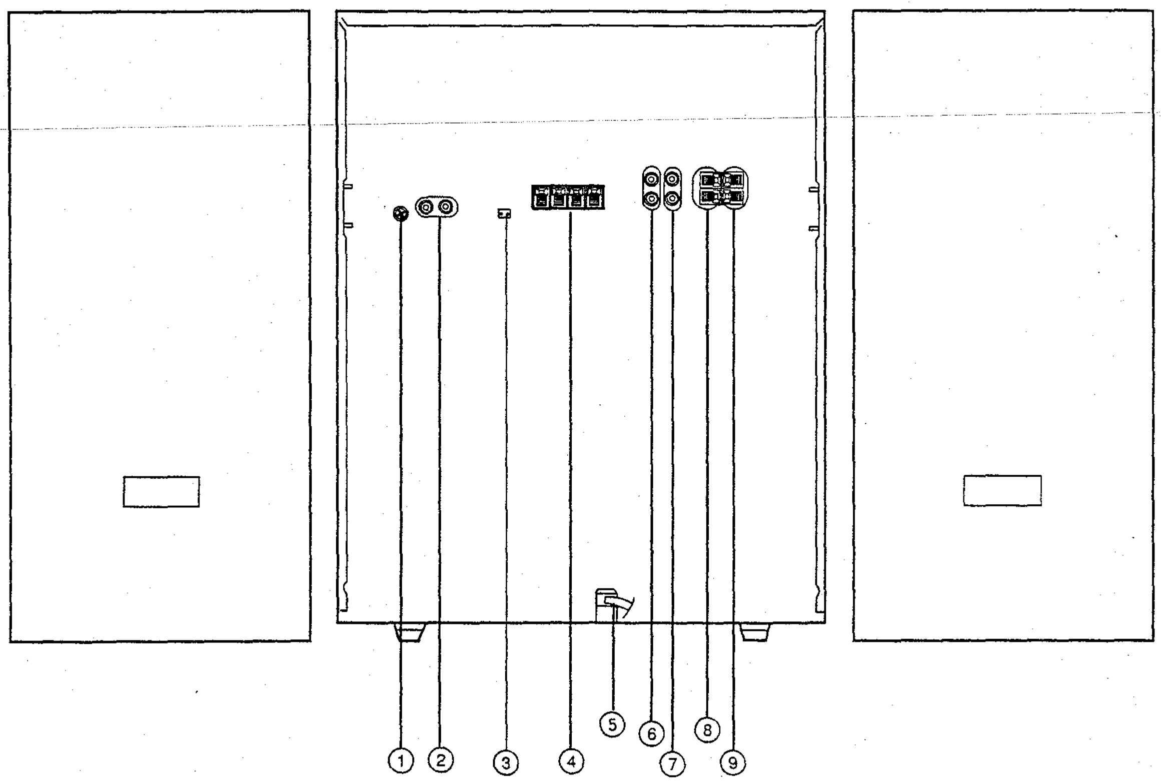
DECK

30. DECK A/B PUSH EJECT POINT
31. DECK A
    REWIND BUTTON
    FAST FORWARD BUTTON
32. DUBBING SPEED SELECT BUTTON
    HIGH SPEED DUBBING BUTTON
    NORMAL SPEED DUBBING BUTTON
33. DOLBY NR ON/OFF BUTTON
34. DECK A/B DISPLAY SELECTOR BUTTON
35. DECK A
    PLAY BUTTON
    STOP BUTTON
36. DECK B
    REVERSE PLAY BUTTON
    STOP BUTTON
    FORWARD PLAY BUTTON
37. RECORD MUTE BUTTON
38. REVERSE MODE BUTTON
39. CD SYNCHRO BUTTON
40 COUNTER RESET BUTTON
41. DECK B
    REWIND BUTTON
    FAST FORWARD BUTTON

CD PLAYER

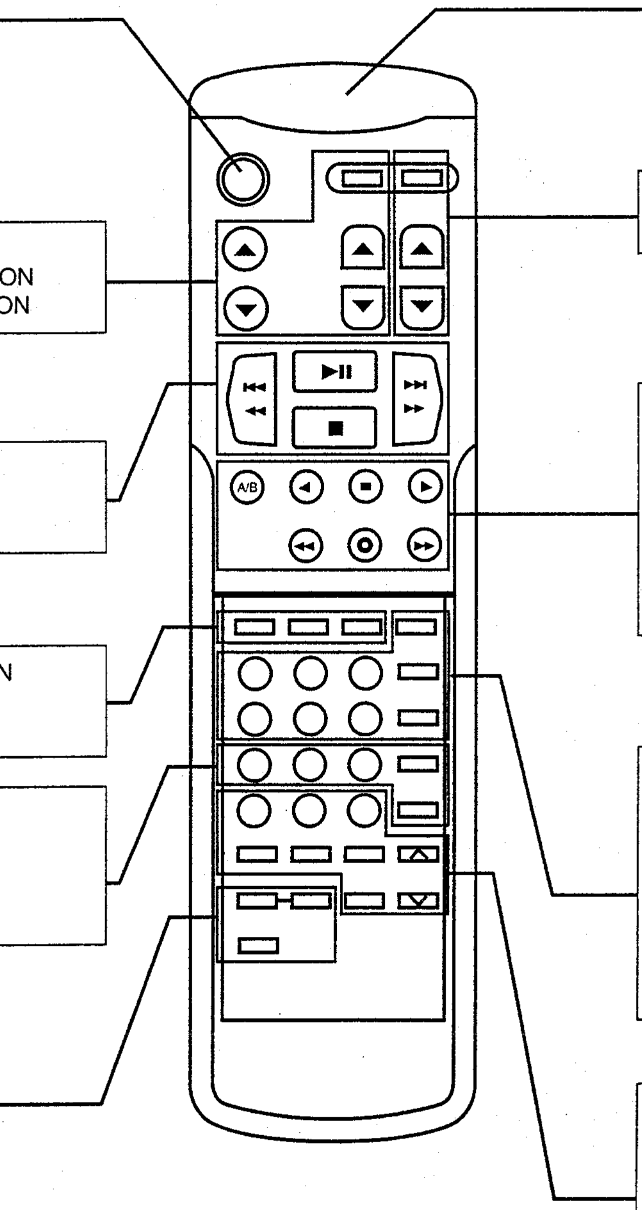
42. CD DOOR
43. HI-LITE BUTTON
44. SHUFFLE PLAY BUTTON
45. OPEN/CLOSE BUTTON
46. STOP/CLEAR BUTTON
47. CD/TAPE DISPLAY
48. PLAY/PAUSE BUTTON
49. SKIP/SEARCH BUTTON
50. +10 BUTTON
51. PROGRAM BUTTON
52. EDIT BUTTON
53. DISPLAY BUTTON
54. REPEAT BUTTON
55 AI SLEEP BUTTON

2. REAR VIEW



1. GROUND TO T/TABLE
2. SURROUND SPEAKER JACK
3. T/TABLE DC JACK
4. SPEAKER TERMINAL
5. POWER CORD
6. PHONO INPUT JACK
7. AUX INPUT JACK
8. FM ANTENNA TERMINAL (OPTIONAL)
   COAXIAL TYPE IN CASE OF 75Ω
9. AM ANTENNA TERMINAL

3. REMOTE CONTROL



POWER BUTTON

BAND BUTTON
PRESET UP/DOWN BUTTON
TUNING UP/DOWN BUTTON

PLAY/PAUSE BUTTON
SKIP/SEARCH BUTTON
STOP BUTTON

TUNER MEMORY BUTTON
MODE BUTTON
P.SCAN BUTTON

CLOCK BUTTON
TIMER BUTTON
CHECK BUTTON
SLEEP BUTTON
TIMER ON/OFF BUTON

FUNCTION SELECTOR BUTTON

INFRARED BEAM TRANSMIT WINDOW

VOLUME UP/DOWN BUTTON
MUTE BUTTON

A/B : A/B DECK SELECTOR BUTTON
: REVERSE PLAY BUTTON(8)
: FORWARD PLAY BUTTON
: STOP BUTTON
: REWIND BUTTON
: FAST FORWARD BUTTON
: RECORD BUTTON
(PAUSE/MUTE)

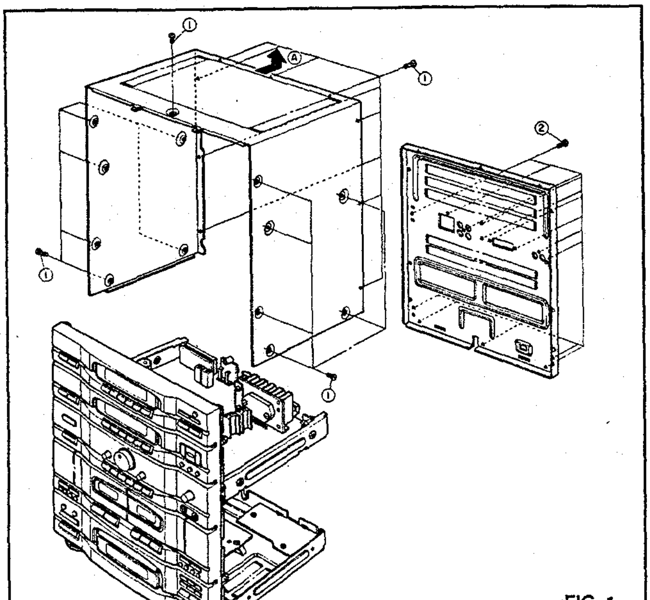
REPEAT BUTTON
TIME DISPLAY BUTTON
SHUFFLE PLAY BUTTON
PROGRAM BUTTON
+10 NUMERIC BUTTON
HI-LITE BUTTON
CD SYNCHRO BUTTON
CD EDIT BUTTON
AI SLEEP BUTTON

EQ ON/FLAT BUTTON
EQ DISPLAY BUTTON
EQ MEMORY BUTTON
USER BUTTON
PRESET BUTTON
FREQUENCY BUTTON
CURVE/SPENA BUTTON
LEVEL UP/DOWN BUTTON

■ DISASSEMBLY INSTRUCTION

1. TOP & REAR CABINET AND CD DOOR GUIDE - FIG. 1

1) Release 22 screws (①)
2) Remove TOP CABINET (direction A)
3) Release14 screws (②)
4) Remove REAR CABINET.

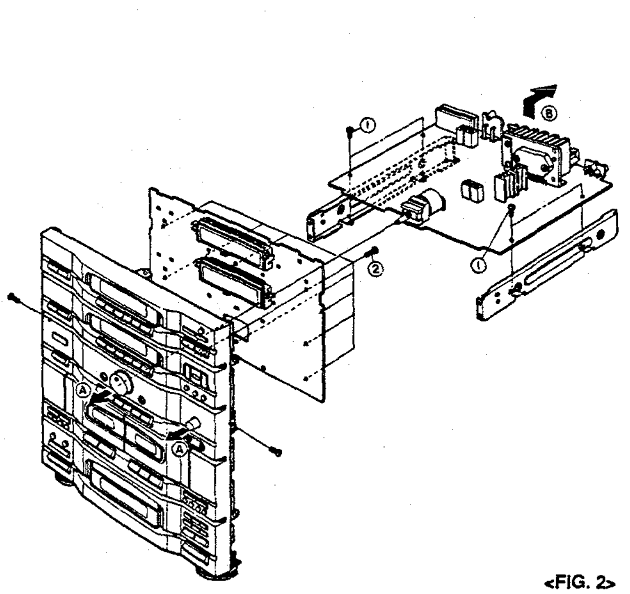


<FIG. 1>

* Be sure to unplug the power cord.

2. MAIN & FRONT PCB - FIG. 2

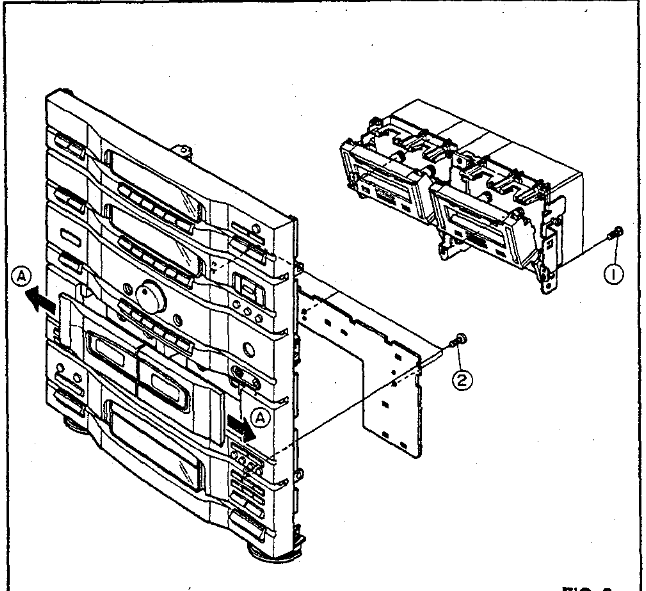
1) Release 4 screws (①)
2) Remove MAIN PCB.
3) Release 9 screws (②)
4) Pull off volume knob and balance knob with your hand and remove NUT (direction A)
5) Remove FRONT PCB.



<FIG. 2>

3. CASSETTE DECK ASSEMBLY - FIG. 3

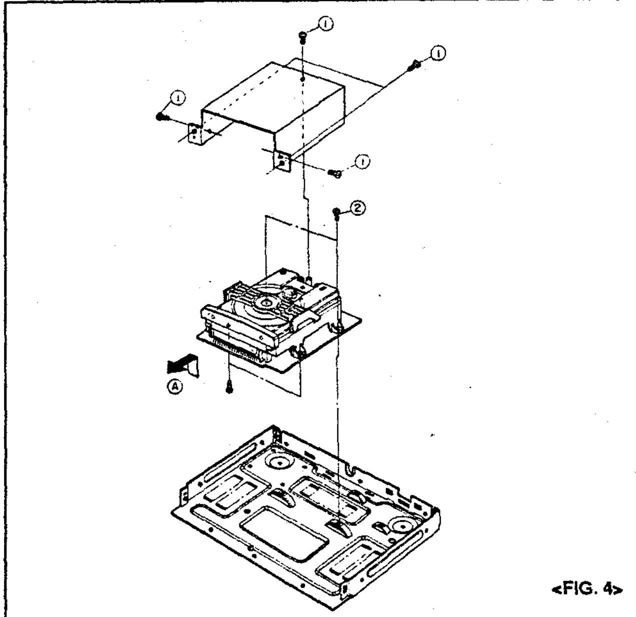
1) Press PUSH/EJECT button.
2) Pull out CASSETTE DOOR (direction A).
3) Release 7 screws (①).
4) Remove CASSETTE DECK mechanism.
5) Release 8 screws (②).
6) REMOVE DECK MECHANISM and DECK KEY PCB



<FIG. 3>

4. CD DECK ASSEMBLY - FIG. 4

1) Release 2 screws (①).
2) Release 4 screws (②).
3) Remove CD DECK mechanism (direction A)



<FIG. 4>

BASIC CIRCUIT OPERATION

1. TUNER, EQ SECTION

* I : Input, O : Output
* High : 5V, Low : GND

- LC7233-8456(MICOM IC) : HICI

PIN NO.	PIN Name	I/O	FUNCTION	ACTIVATING
1	X_{IN}	I	Crystal Oscillating port (4.5MHz)	—
2	TEST 2	I	Connect to GND	—
3	$\overline{\text{REMOCON}}$	I	REMOCON input pin. This pin is connected to INT. If this pin is disconnected, REMOCON won't operate	L
4	$\overline{\text{STEREO}}$	I	If it become low, STEREO of FLT will be on	L
5	$\overline{\text{SD}}$	I	Broadcast receiving port	L
6	K4	I	Diode matrix input signal of each Band	H
7,8	$\overline{\text{MW,FM}}$	O	Output for power conversion	L
9,10,14	VFD(DATA,CLK,CE)	O	MSC7110 control port(serial data line)	H
11	TAPE RQ	O	TAPE function control port	H
12	CD RQ	O	CD function control port	H
13	MUTE	O	MUTE. low when the power is turned on	—
15,16	DA,CLK	O	KA 22293,, LC866216 Control port (serial data line)	H,H
17	S CE	O	CD, TAPE control port (serial line)	H
18	FCE	O	EQ, FUNCTION control port (serial line)	H
19	MO/ST	O	Mono/Stereo selection port (Mono : High, Stereo: Low)	H,L
20	POWER	O	Power control port	H
21	$\overline{\text{A MUTE}}$	O	AUDIO Mute port	L
22	IF CNT	O	IF signal output port. If low voltage is input to SD port (LA1851N) during auto search, it changes from low to high	H
23~26	K3~K0	I	Key scan input signal	H
27	NC	—	Unconnected	—
28~37	K09~K00	O	Key scan output signal	H
38~43	—	—	Unconnected	—
44	VR DOWN	O	If volume down signals are input, it outputs high voltage	H
45	VR UP	O	If volume up signals are input, It outputs high voltage	H
46~51	—	—	Unconnected	—
52	HOLD	I	L-Back up mode	—
53	$\overline{\text{ADJ}}$	I	Broadcast receiving port	L
54	$\overline{\text{HCRT}}$	I	FM/AM IF signal input port	L
55	SNS	I	KA 22293, LC866216 Data transmission port	—
56	V_{DD}	I	Power input port ("+" voltage)	H
57,58	FM,AM VCO	I	Input local OSC signal	—
59	V_{SS}	—	Connect to GND	—
60,	EQ	O	FET (K583) driving port	—
61,62	AIN, AOUT	—	Unconnected	—
63	TEST 1	I	Connect to GND	—
64	X_{OUT}	O	Crystal oscillating port (4.5MHz)	—

- LC866216(EQ-FLT): QIC4

* I : Input, O : Output

PIN NO.	PIN Name	I/O	FUNCTION	ACTIVATING
1~3	NC	—	Unconnected	—
4	NC	—	Uncpnnected.	—
5~10	NC	O	Unconnected	—
11	NC	—	Unconnected	—
12	RESET	I	Reset pin with Pull-up resistor	H
13~14	NC	—	Unconnected	—
15	GND	—	Conncet to GND.	—
16~17	CF1,CF2	—	Input/Output pin for ceramic resonator Oscillation	—
18	V_{DD}	I	Power supply (+5V)	H
19~23,26	EQ LEVEL INPUT	I	EQ Fequency LEVEL INPUT	—
27	FCE	—	SYSTEM pin	H
28	HOLD	—	HOLD pin	H
24,25,29,31~37	NC		Unconnected	
30	REMOCON	I	Remote control signal input pin	—
38~46	GRID	O	Output for VFD display controller Segment/timing in common.	—
47	V_{DD}	—	Power supply (+5V)	H
48	V_{EE}	—	Power supply (-24V)	—
53~64	SEGEMENT	O	Output for VFD display controller segment	—
65~68	KEY-IN	I	Input for key scan interrupt	H
49~52,69,70	NC	—	Unconnected	—
71	OPTION	—	Option (Hight : 7 BAND Low : 5 BAND)	H L
72	OPTION	—	Unconnected	—
73	EQ DATA	O	Data output	—
74	NC	—	Unconnected	—
75	EQ CLK	O	Colck Input/Output	—
76	NC	—	Unconnected	—
77~78	F CLK F DATA	—	Data Input (bus input/output) Clock Input/Output	—
79~80	NC	—	Unconnected	—
85	MUTE IND	I	Pin for MUTE display	H
84	SURROUND IND	I	Pin for SURROUND display	H
81~83,86~88	NC	—	Unconnected	—
89	V_{SS}	—	GND	—
90	V_{DD}	—	Power supply (+5V)	H
91~100	NC		Unconnected	—

2. CASSETTE DECK SECTION

- KC56C-1660(MICOM IC) : UIC1

* I: Input, O: Output

PIN NO.	PIN NAME	I/O	FUNCTION	ACTIVATING	
				H	L
1	Motor	—	Motor operation signal output port(option)	TWO MOTOR	ONE MOTOR
2	REV	—	DECK operation signal ouput port(option)	ONE DECK	TWO DECK
3	Dolby B/C	—	Dobly NR B/C	C	B
4	Music center/component	—	Music center/Component option port	Component	Music Center
5~8	key Matrix	I	SW input port		
9~10	—	—	Unconnected		
11~14	R,REC,Cro2,Mode,Half	I	B DECK operation input port		B Deck
15~17	SI,SO,$\overline{SCK}$	—	DECK FLT operation output port		
18	D,RQ	—			
19~20	F REC,Hall B	I	B DECK operation input port		B Deck
21~24	Hall,Cro2,Mode,Half	I	A DECK operation input port		A Deck
25	AMPS IN	I	AMPS blank signal input	High	
26~28	CLK,CE,DATA	I/O	System control operation port		
29~31	—		Unconnected		
32	VDD	—	VDD, + 5V		
33~34	SOL1 SOL2	O	DECK FF/REW Solenoid operation port	High	
35	MO1	O	Motor operation output port	High	
36	MO2	O	Unconnected		
37	$\overline{REC}$	O	REC,Dubbing: LOW		REC Dubbing
38	PB/REC	O	DUB.PB:High, REC : Low	PB. DUB	REC
39	CrO2-PB	O	CoO2	Cro2 TAPE	
40	PLAY1	O	A DECK : High, B DECK: LOW	A DECK DUB	B DECK
41	NOR DUB	O	NORMAL DUBBING:High	NOR-DUB	
42	REC.Mute	O	REC : LOW, PB : High	PB	REC
43	Line.Mute	O	STOP : High, PLAY :LOW	STOP	PLAY
44	—	O	—	—	—
45	RESET	—	RESET		
46~47	X1,X2	—	4MHz osc port		
48	HI-Dub	O	Hi-Dubbing ; High	HI-DUB	
49	$\overline{DOLBY\text{-}ON}$	O	Dolby NR ON : Low	HI-DUB	DOLBY ON
50	REC RQ	O	REC : High	REC	
51~57	LED	O	LED option port	—	—
58	TA RQ	O	Play : HIGH	PLAY	—
59	LEDV$_{SS}$	—	GND		

3. CD PLAYER SECTION

1) KS5990/KS59910(Digital Signal Processor) : DIC1

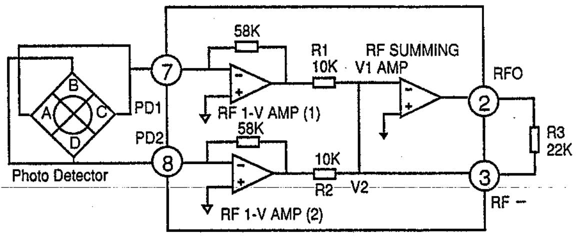
* I/O : INPUT/OUTPUT

PIN NO.	Symbol	I/O	Description
1	SMEF	O	Pin 1 output is switched constant when output filter of the spindle motor is energized
2	SMON	O	ON/OFF control for spindle motor.
3	SMPD	O	Spindle motor drive. Provides rough control during CLV-S mode and phase control during CLV-P mode.
4	SMSD	O	Spindle motor drive. Controls speed suring CLV-Pmode.
5	EFMZ	I	EFM signal from RF amplifier.
6	EFMO	O	Controls slice level of the EFM signal.
7	LOCK	O	The output of pin 7 reflects the status of the GFS signal which is sampled at PBFR/16. When the GFS signals is "H",but, when the signal has remained "L" for at least 8 samples,the putput of pin 7 is "L".
8	VCOO	O	VOC output. The frequency is f=8.6436MHz, when locked by the DBFRsignal.
9	VCOI	I	VCO input.
10	TEST	I	(0V)
11	PHAS	O	The output of Pin 11 provides phase comparison of EFM signal and VCO/2
12	V$_{SS}$	—	GND (0V)
13	MCK	I	Pin 13 provides serial transmission clock from the CPU. Data is latched on the leading edge of the clock.
14	MLT	I	Pin 14 provides latch input from the CPU 8-bit shift register data (serial data received from the CPU) is latched in each of the registers.
15	MDAT	I	Serial data from the CPU.
16	XRST	I	System reset ("L").
17	TRCK	I	Tracking pulse input.
18	ISTAT	O	Output reflecting internal condition as designated by address.
19	MUTE	I	Muting input. MUTE is "L"when ATTM of internal register A is "L" (normal condition). MUTE is "H" when muting condition is set.
20	SOOK	O	Output the results CRC check of subcode Q.
21	SBCK	I	Clock input for subcode serial ouput.
22	SDAT	O	Serial output of subcode.
23	SQDT	O	Output of subcode Q.
24	S0S1	O	Output of subcode sync S0 + s1.
25	SQCK	I/O	Clock for reading subcode Q.
26	SQEN	I	Input for selecting SQCK (L : SQCK is output, H : SQCK is input).
27	SRAM	I	SRAM is "H" in Normal, SRAM is "L" when system is testing.
28	LKFS	O	Display output for frame sync lock status.
29	DB8	I/O	Data pin for extenal RAM. DATA 8 (MSB) in test mode. Hi-Z in normal.
30	DB7	I/O	Data pin for extenal RAM. DATA 7 in test mode. Hi-Z in normal.
31	DB6	I/O	Data pin for extenal RAM. DATA 6 in test mode. Hi-Z in normal.
32	DB5	I/O	Data pin for extenal RAM. DATA 5 in test mode. Hi-Z in normal.
33	V$_{DD}$	—	Power supply (+5).
34	DB4	I/O	Data pin for extenal RAM. DATA 4 in test mode. Hi-Z in normal.
35	DB3	I/O	Data pin for extenal RAM. DATA 3 in test mode. Hi-Z in normal.
36	DB2	I/O	Data pin for extenal RAM. DATA 2 in test mode. Hi-Z in normal.
37	DB1	I/O	Data pin for extenal RAM. DATA 1 in test mode. Hi-Z in normal.

<KS5990/59910 : DSP>

Pin No.	Symbol	Pin No.	Description
38	AD01	O	(LSB) In normal mode (TEST="L",SRAM="H") these pins are High impedance (Hi-Z) In test mode (TEST="H".SRAM="L") these pins are Output address of external RAM
39	AD02	O	
40	AD03	O	
41	AD04	O	
42	AD05	O	
43	AD06	O	
44	AD07	O	
45	AD08	O	
46	AD09	O	
47	AD10	O	
48	AD11	O	(MSB)
49	WE	I/O	In normal mode, this is WE output. In test mode, write enable input.
50	CE	I/O	In normal mode, this is CE output. In test mode, chip enable input.
51	4MCK	O	Divider output for crystal. f=4.2336MHz
52	Vss	—	GND (0V)
53	XIN	I	Input to crystal oscillator circuit. Depending on the mode, the frequency is either f=8.4672 or 16.9344MHz
54	XOUT	O	Output from crystal oscillator circuit. Depending on the mode, the frequency is either f=8.4672 or 16.9344MHz
55	SEL1	I	Mode selection input 1.
56	SEL2	I	Mode selection input 2.
57	SEL3	I	Mode selection input 3.
58	SEL4	I	Mode selection input 4. Code switch input for audio data output. 2's complement output when "L" offset binary output when "H"
59	SEL5	I	Mode selection input 5. Code switch input for audio data output serial output when "L",parallel output when "H"
60	APTR	O	Output for aperture compensation. "H" when R-ch.
61	APTL	O	Output for aperture compensation. "H" when L-ch
62	C1F1	O	Monitor output reporting status of error correction for C1 decoder. When SEL5="L", DA01 (LSB of parallel audio data) is output when SEL5="H"
63	C1F2	O	Monitor output reporting status of error correction for C1 decoder. When SEL5="L", DA02 is output when SEL5="H"
64	C2F1	O	Monitor output reporting status of error correction for C2 decoder. When SEL5="L", DA03 is output when SEL5="H"
65	C2F2	O	Monitor output reporting status of error correction for C2 decoder. When SEL5="L", DA04 is output when SEL5="H"
66	C2FL	O	When SEL5="L", output of status condition. C2FL is set "H" when the C2 sequence. Presently being corrected becomes impossible to correct. DA05 is output when SEL5="H"
67	C2PO	O	Display output of the C2 pointer when SEL5="L", DA06 is output when SEL5="H"
68	XTFR	O	When SEL5="L" output of read frame clock which is 7.35KHz of the crystal system. DA07 is outpt when SEL5="H"
69	PBFR	O	When SEL5="L" output of write frame clock which is 7.35KHz when locked by the crystal system. DA08 is output when SEL5="H"
70	$\overline{\text{PBCK}}$	O	When SEL5="L" output of VCO/2 (f=4.3218MHz when locked by the EFM signal). DA09 is output when SEL5="H"
71	FSDW	O	When SEL5="L" output for unprotected frame sync patterns. DA10 is output when SEL="H"
72	ULKFS	0	Output for display of status of frame sync protection when SEL5="L" DA11 is output when SEL5="H"
73	VDD	—	Power supply(+5V)
74	JIT	O	When SEL5="L", output for display of either RAM overflow or underflow for +4 frame jitter absorption. DA12 is output when SEL5="H"
75	ZWDCK	O	When SEL5="L" output for strobe signal (352.8KHz when DF is ON, 176.4MHz when DF is OFF). DA 13 is output when SEL5="H"
76	$\overline{\text{BLCK}}$	O	When SEL5="L",inverse output of BLCK DA14 is output when SEL5="H"
77	BLCK	O	When SEL5="L", bit clock output (4.2336MHz when DF is ON. 2.1168MHz when DF is OFF) DA15 is output when SEL5="H"
78	DATA	O	Serial data output of audio signal when SEL5="L". DA16 is output when SEL5="H"
79	WDCK	O	Strobe signal output. Output is 176.4KHz when DF is on. Output is 88.2KHz when DF is off.
80	CHCK	O	Strobe signal output. Output is 88.2KHz when DF is on. Output is 44.1KHz when DF is off.

2) RF AMPLIFIER (KA9201) : RIC



RF I-V AMP (1) and RF 1-V AMP (2) are converted into voltage from current signal of PD1 (A+C) and PD2 (B+D) through the 58Kohm internal resistor. Furthermore, it is added in RF summing amplifier, this signal (A+B+C+D) is output at RFO (pin 2) The RF output voltage (low frequency) is as follow.

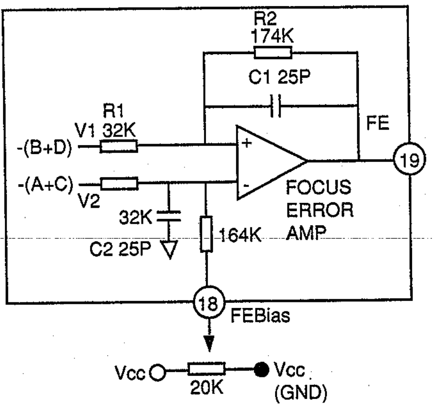
$$\begin{aligned} VRF &= -R3 * (iPD1+iPD2) \\ &= -R3 * (V1/R1+V2/R2) \\ &= -27K * (V1/10K+V2/10K) \\ &= -2.7K * (V1+V2) \end{aligned}$$

- KA22293 (FUNCTION) : BIC1

* I/O : INPUT/OUTPUT

PIN NO.	SYMBOL	I/O	DESCRIPTION
1	PHLIN	I	L-CHANNEL PHONO INPUT
2	PHLNF	I	L-CHANNEL PHONO AMP N F
3	PHL OUT	O	L-CHANNEL PHONO OUTPUT
4	LH VCC	—	L-CHANNEL 1/2 Vcc
5	BFL1 OUT	O	L-CHANNEL 1'ST BUFFER OUTPUT
6	BFL2 INPUT	I	L-CHANNEL 2'ND BUFFER INPUT
7	BFL2 NF	I	L-CHANNEL 2'ND BUFFER N F
8	BFL2 OUT	O	L-CHANNEL 2'ND BUFFER OUTPUT
9	MI 2 IN	I	MIC 2'ND AMP INPUT
10	MI 1 OUT	O	MIC 1'ST AMP OUTPUT
11	MI1 NF	I	MIC 1'ST AMP N F
12	MI IN	I	MIC 1'ST AMP INPUT
13	MSPH	I/O	MANUAL SWITCH (PHONO))
14	MS TU	I/O	MANUAL SWITCH (TUNER)
15	MS CD	I/O	MANUAL SWITCH (COMPACT DISC)
16	MS TA	I/O	MANUAL SWITCH (TAPE)
17	MS AU	I/O	MANUAL SWITCH (AUX)
18	MS VT	I/O	MANUAL SWITCH (VTR)
19	D-GND	—	DIGITAL GND
20	RESET	—	RESET
21	MUTIN	I	MUTE INPUT POT
22	CE	I	ENABLE INPUT POT
23	CLK	I	CLOCK INPUT POT
24	DATA	I	DATA INPUT POT
25	U/M SEL	—	U-COM/MANUAL SELECTION
26	MUTIM	—	MUTING TIME CONTROL
27~28	VCC	—	VCC
29	BFR 2 OUT	O	R-CHANNEL 2'ND BUFFER OUTPUT
30	BFR2 NF	I	R-CHANNEL 2'ND N F
31	BFR 2 IN	I	R-CHANNEL 2'ND BUFFER INPUT
32	BFR 1 OUT	O	R-CHANNEL 1'ST BUFFER OUTPUT
33	RR F/L	—	RIPPLE REJECTION FILTER
34	RH VCC	—	R-CHANNEL 1/2 VCC
35	PHR OUT	O	R-CHANNEL PHONO OUTPUT
36	PHR NF	I	R-CHANNEL PHONO N F
37	PHR IN	I	R-CHANNEL PHONO INPUT
38	TUR IN	I	R-CHANNEL TUNER INPUT
39	CDR IN	I	R-CHANNEL COMPACT DISC INPUT
40	TARIN	I	R-CHANNEL TAPE INPUT
41	AURIN	I	R-CHANNEL AUX INPUT
42	VTRIN	I	R-CHANNEL VTR INPUT
43	A-GND	—	ANALOG GND
44	VTLIN	I	L-CHANNEL VTR INPUT
45	AULIN	I	L-CHANNEL AUX INPUT
46	TALIN	I	L-CHANNEL TAPE INPUT
47	CDLIN	I	L-CHANNEL CD INPUT
48	TULIN	I	L-CHANNEL TUNER INPUT

3) FOCUS ERROR AMPLIFIER (KA9201) : RIC1


R2
174K
C1 25P
R1
V1 32K
-(B+D)
-(A+C)
V2
32K
C2 25P
164K
FE
19
FOCUS
ERROR
AMP
18
FEBias
Vcc
20K
Vcc
(GND)

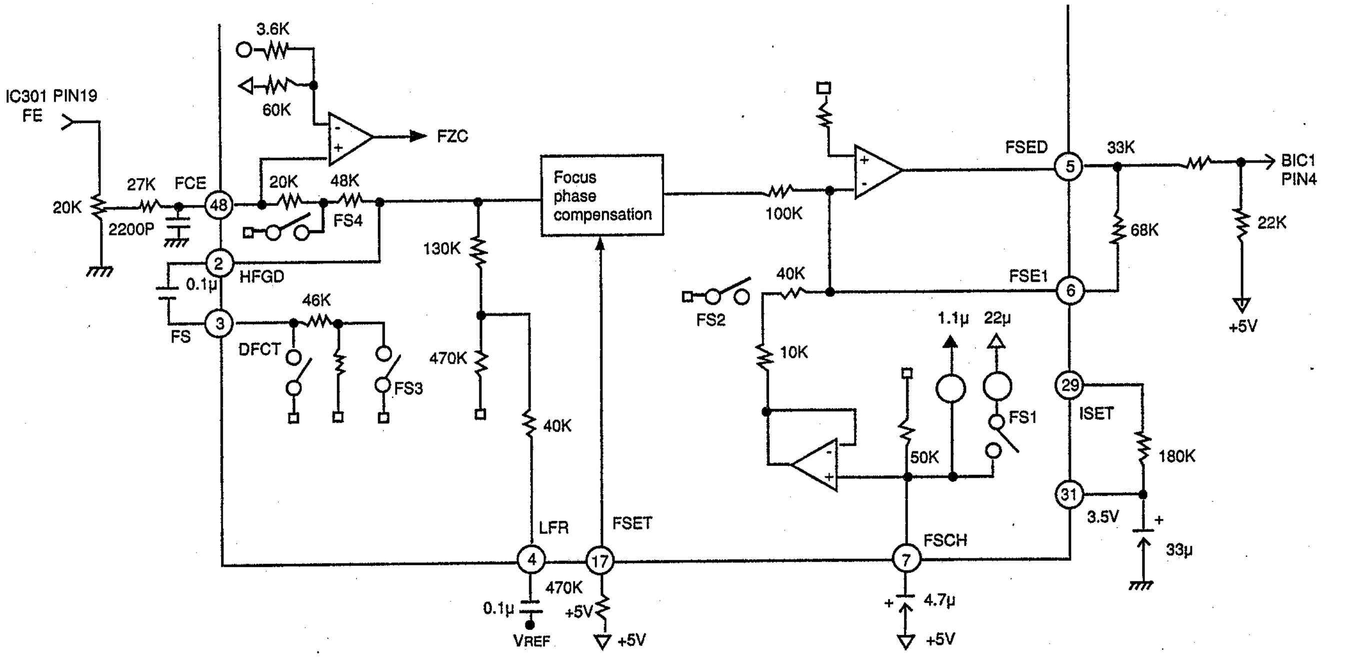
The Focus Error AMP is the difference between RF 1-V AMP (1) output (A+C) and FR I-V AMP(2) output (B+D). This two [-(A+C), -(B+D)] signals are each applied to the (-) and (+) input of Focus Error AMP. As the result of differential voltage, Focus Error signal is appeared at FE pin (pin 19). This FE output voltage (low frequency) become [(A+C) - (B+D)], as follow.

$$VFE = R2/R1 \times (V2-V1) = 5.4\,(V2-V1)$$

The focus error voltage is directed to the focus servo circuit,to maintain optimum focusing at all times.

4) FOCUS SERVO SYSTEM (KA8309) : SIC 1

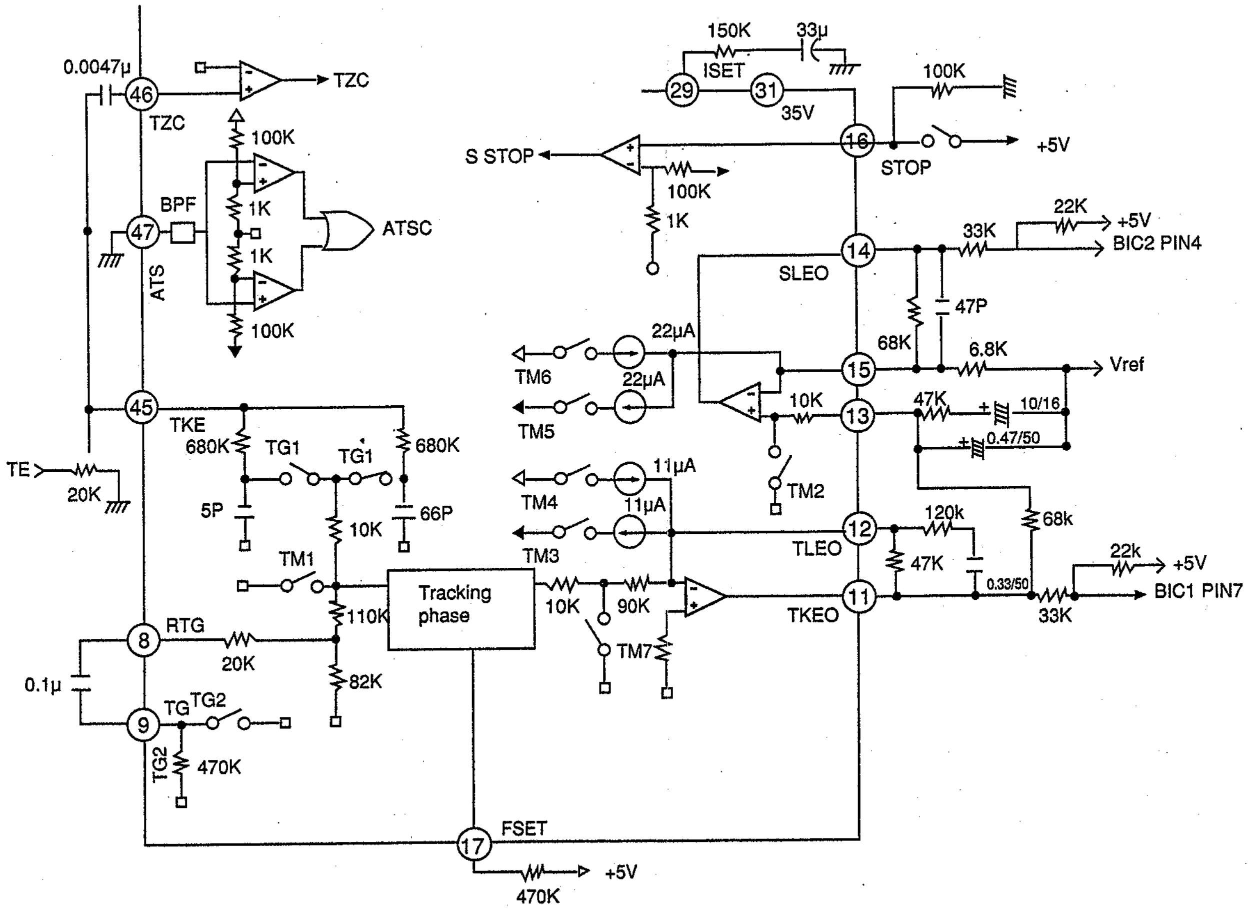
The below is a block diagram of the focus servo system.
When FS3 is switched on, the high frequency gain can be reduced by forming a low frequency time constant through a capacitor connected across pins 2 and 3 and the internal resistor.
The capacitor across the pin 4 and GND has a time constant to raise the low frequency usually playback condition.
The peak frequency of the focus phase compensation is inversely proportional to the resistor connected to pin 17 (about 1. 2KHz when the resistor is 470k Ω).


IC301 PIN19
FE
20K
27K
FCE
2200P
48
3.6K
60K
FZC
20K
48K
FS4
2
HFGD
0.1µ
3
FS
46K
DFCT
FS3
130K
470K
40K
Focus
phase
compensation
100K
FS2
40K
10K
FSED
5
33K
68K
22K
+5V
BIC1
PIN4
FSE1
6
1.1µ
22µ
FS1
50K
29
ISET
180K
31
3.5V
33µ
LFR
FSET
4
17
7
FSCH
470K
0.1µ
VREF
+5V
4.7µ

The focus search peak becomes about ±1.1 Vp-p with above constant. The peak is inversely proportional to the resistor connected across the pins 29 and 31. However, when this resistor is varied, the peaks of track jump and sled kick also vary.
The FZC comparator invert input is set to 5.7% of the difference between the reference voltage Vcc and Vc and Vc (Pin 1) : 5. 7% x (Vcc-Vc).

5) TRACKING SLED SERVO SYSTEM (KA8309) : SIC1

The below is a block diagram of the tracking sled servo system.
The capacitor across pins 8 and 9 has a time constant to lower the high frequency when TG2 is switched off. The tracking phase compensation peak frequency is inversely proportional to the resistor connected to pin 17 (about 1.2KHz when the resistor is 470K Ω).
For a tracking jump in the FWD or REV direction, TM3 or TM4 are set to ON. At this time, the peak voltage fed to the tracking coil is determined by the TM3 and TM4 current values and the feedback resistor from pin 12. That is :
Track jump peak voltage = TM3 (TM4) current value x feedback rdsistor value.

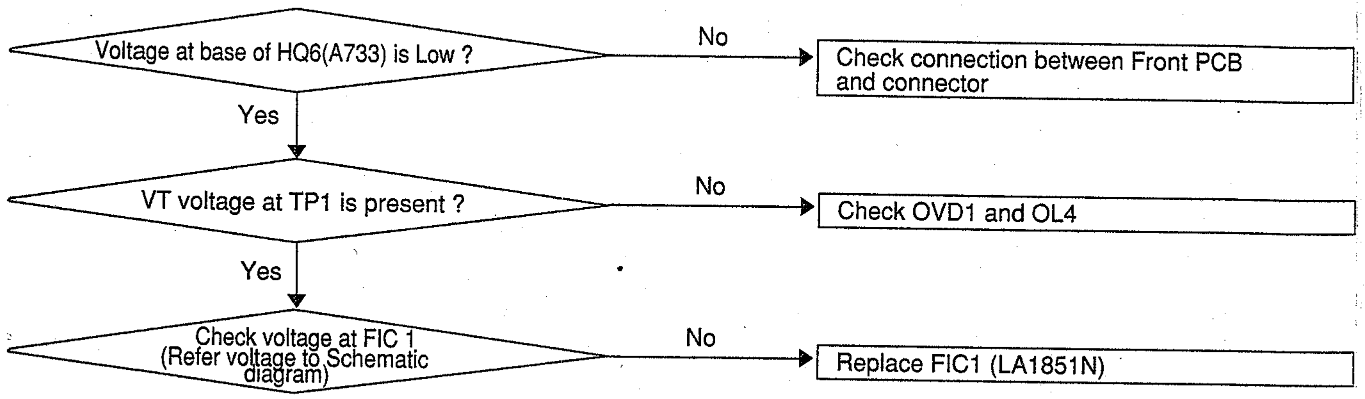

0.0047µ
46
TZC
TZC
100K
BPF
47
1K
1K
ATSC
ATS
100K
45
TKE
680K
TG1
TG1
680K
TE
20K
5P
10K
66P
TM1
110K
82K
8
RTG
20K
0.1µ
9
TG
TG2
TG2
470K
Tracking
phase
17
FSET
470K
+5V
150K
33µ
ISET
29
31
35V
100K
16
STOP
+5V
S STOP
100K
1K
14
SLEO
33K
22K
+5V
BIC2 PIN4
47P
68K
6.8K
Vref
15
TM6
22µA
22µA
TM5
10K
13
47K
10/16
0.47/50
TM2
TM4
11µA
11µA
TM3
12
TLEO
120k
68k
47K
0.33/50
22k
+5V
BIC1 PIN7
10K
90K
TM7
11
TKEO
33K

The FWD or REV sled kick is done by setting TM5 or TM6 ON. At this time, the peak voltage added to the sled motor is determined by the TM5 or Tm6 current value and the feedback resistor from pin 15.
Sled jump peak voltage = TM5 (TM6) current value x feedback resistor value
Each SW current value is determined by the resistor connected to pins 29 and 31.
When the resistor is at about 150KΩ ,
TM3 or TM4 is + 11µA and TM5 or TM6 is + 22µA.
This current value is almost inversely proportinal to the resistor, variable within a range of about 5 to 40 µA for TM3,
STOP is the ON/OFF detection signal for the limit SW or the sled motor's innermost circumference.

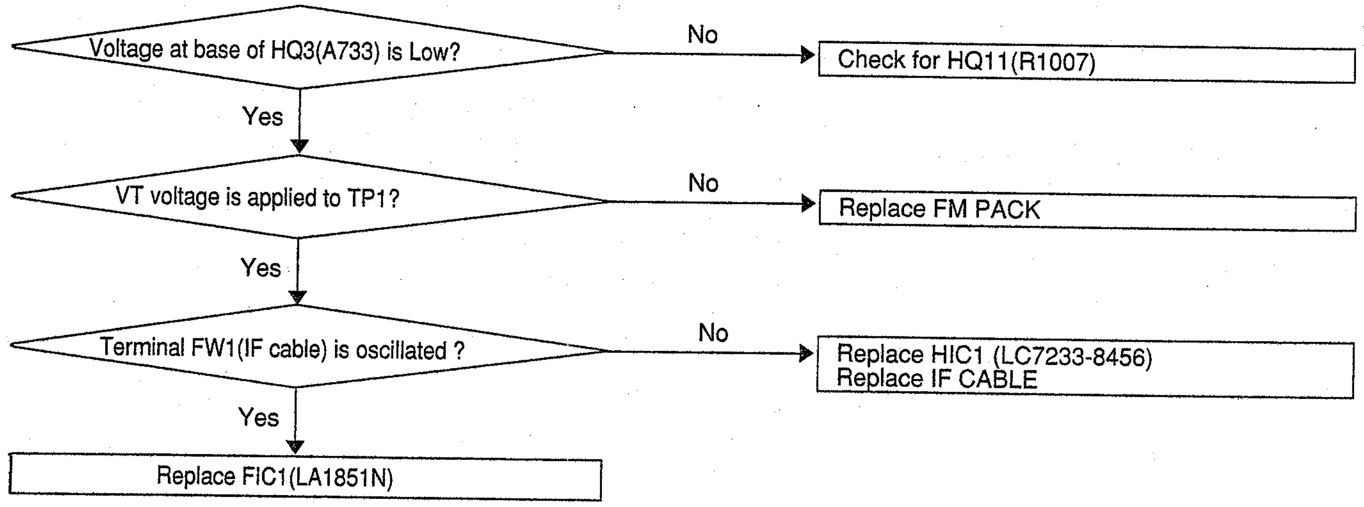
■ TROUBLESHOOTING GUIDE

1. TUNER & EQUALIZER

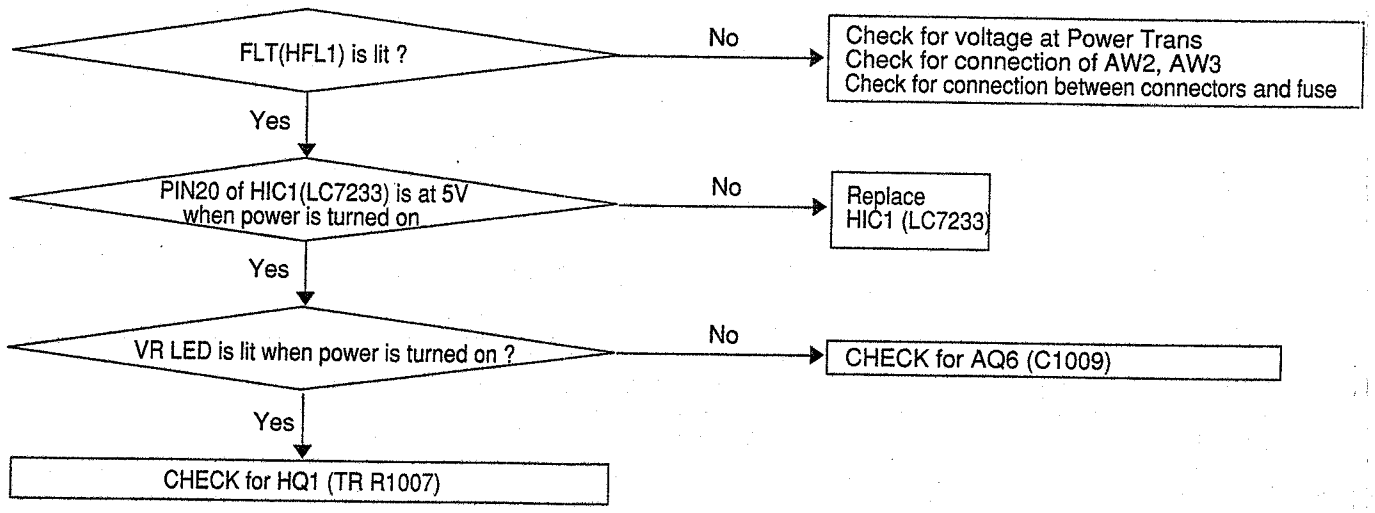
1) NO AM sound


Voltage at base of HQ6(A733) is Low ?
No
Check connection between Front PCB and connector
Yes
VT voltage at TP1 is present ?
No
Check OVD1 and OL4
Yes
Check voltage at FIC 1 (Refer voltage to Schematic diagram)
No
Replace FIC1 (LA1851N)

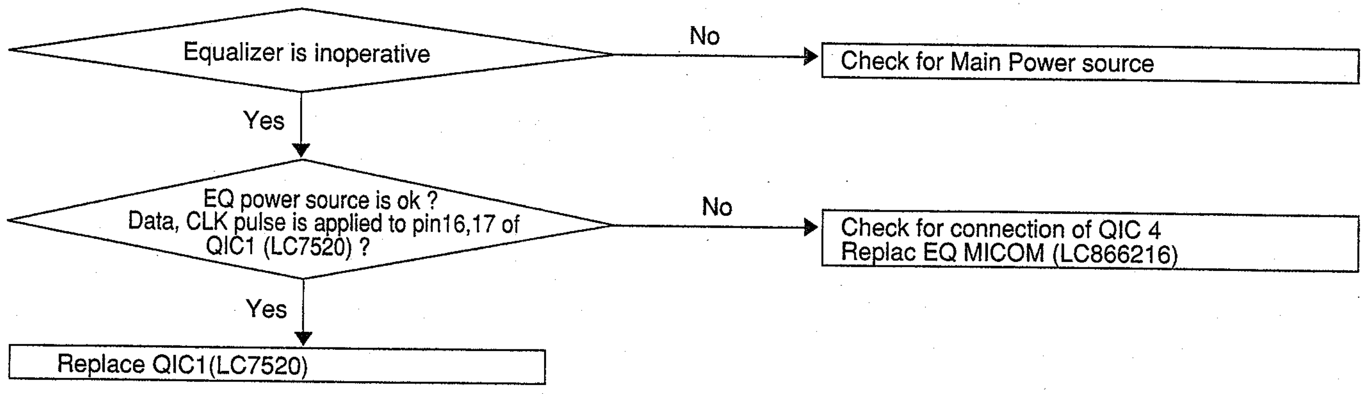
2) NO FM sound


Voltage at base of HQ3(A733) is Low?
No
Check for HQ11(R1007)
Yes
VT voltage is applied to TP1?
No
Replace FM PACK
Yes
Terminal FW1(IF cable) is oscillated ?
No
Replace HIC1 (LC7233-8456)
Replace IF CABLE
Yes
Replace FIC1(LA1851N)

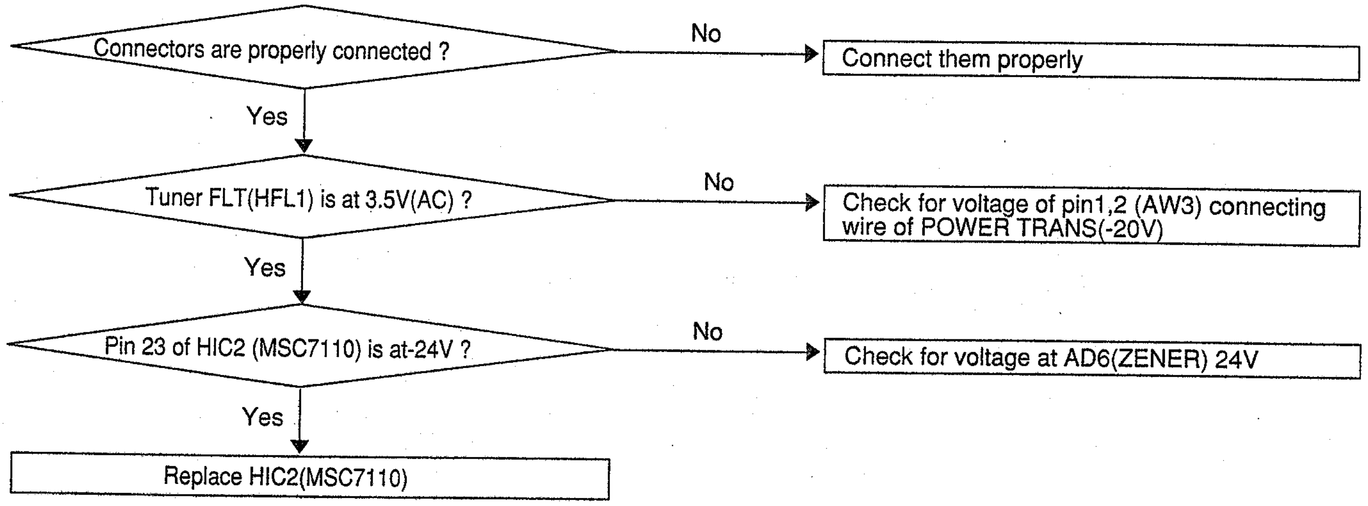
3) NO POWER


FLT(HFL1) is lit ?
No
Check for voltage at Power Trans
Check for connection of AW2, AW3
Check for connection between connectors and fuse
Yes
PIN20 of HIC1(LC7233) is at 5V when power is turned on
No
Replace HIC1 (LC7233)
Yes
VR LED is lit when power is turned on ?
No
CHECK for AQ6 (C1009)
Yes
CHECK for HQ1 (TR R1007)

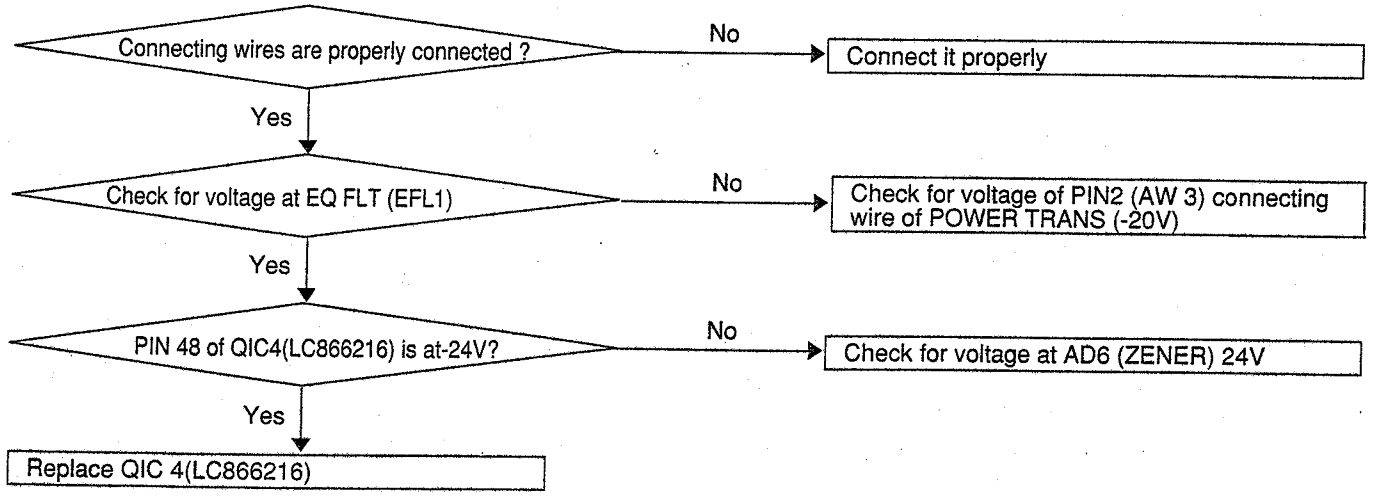
4) EQUALIZER MALFUNCTION


Equalizer is inoperative
No
Check for Main Power source
Yes
EQ power source is ok ?
Data, CLK pulse is applied to pin16,17 of QIC1 (LC7520) ?
No
Check for connection of QIC 4
Replac EQ MICOM (LC866216)
Yes
Replace QIC1(LC7520)

5) FLT INOPERATIVE

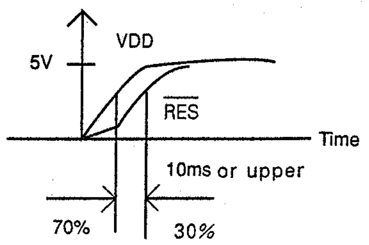

Connectors are properly connected ?
No
Connect them properly
Yes
Tuner FLT(HFL1) is at 3.5V(AC) ?
No
Check for voltage of pin1,2 (AW3) connecting wire of POWER TRANS(-20V)
Yes
Pin 23 of HIC2 (MSC7110) is at-24V ?
No
Check for voltage at AD6(ZENER) 24V
Yes
Replace HIC2(MSC7110)

6) FLT INOPERATIVE


Connecting wires are properly connected ?
No
Connect it properly
Yes
Check for voltage at EQ FLT (EFL1)
No
Check for voltage of PIN2 (AW 3) connecting wire of POWER TRANS (-20V)
Yes
PIN 48 of QIC4(LC866216) is at-24V?
No
Check for voltage at AD6 (ZENER) 24V
Yes
Replace QIC 4(LC866216)

2. CASSETTE DECK SECTION

1) TROUBLESHOOTING CHART

<table>
<tr><th>Circuit block</th><th>Main Function</th><th>Check point when malfunctioning</th></tr>
<tr><td>TAPE EQ AMP
JIC1(LA3246)</td><td>● Convert P/B & R/P DECK SIGNAL</td><td>Check for voltage at pin9
On PLAY mode : High
On RECORD mode : Low</td></tr>
<tr><td>AMPS
JIC2(LA2010)</td><td>● AMPS</td><td>● Check for voltage at pin6
When between songs : Low (Normal)
When playing song : High (Normal)
● Check for signal presence at pin1</td></tr>
<tr><td rowspan="2">DOLBY NR AMP
DIC1(KA2271)</td><td>● Convert P/B & SOURCE SIGNAL</td><td>● Check for voltage at pin4
On PLAY mode : High
On RECORD mode : Low
On DUBBING mode : High
● Check for voltage at pin38 of UIC1
<table>
<tr><th>Mode</th><th>Voltage (pin38)</th></tr>
<tr><td>PLAY</td><td>High</td></tr>
<tr><td>RECORD</td><td>Low</td></tr>
<tr><td>DUBBING</td><td>High</td></tr>
</table></td></tr>
<tr><td>● Convert DOLBY NR ON/OFF</td><td>● DIC1 13 CHECK
<table>
<tr><th>NR</th><th>Pin 13</th></tr>
<tr><td>OFF</td><td>High</td></tr>
<tr><td>ON</td><td>Low</td></tr>
</table></td></tr>
<tr><td>LINE INPUT AMP
KIC1(BA3312)</td><td>● ALC
(Automatic Input Level Control)</td><td>● Check for voltage at pin4
During ALC operation : 0.8-1.1V</td></tr>
<tr><td>BIAS OSC</td><td>● Oscillate RECORD BIAS
(105KHZ)</td><td>● Check for oscillation frequency of TP POINT(CW4)
● Check for status
<table>
<tr><th>Mode</th><th>LQ2</th></tr>
<tr><td>RECORD</td><td>Turned ON</td></tr>
<tr><td>DUBBING</td><td>Turned ON</td></tr>
</table>
(Normal)</td></tr>
<tr><td>R/P SWITCHING</td><td>● Convert PLAY/RECORD Head
(Deck B)</td><td>● Check for voltage at gate of KQ6L, KQ6R
<table>
<tr><th>Mode</th><th>KQ6L, KQ6R</th></tr>
<tr><td>REC</td><td>-1.6V</td></tr>
<tr><td>PLAY</td><td>+0.6V</td></tr>
</table></td></tr>
<tr><td>μ-COM UIC1
(KS56C 1660)</td><td>● Control Deck Mechanism
● Control LCD DISPLAY
● Control MUTE circuit
● Control each circuit</td><td>● Check for RESET when power is turned ON

</td></tr>
<tr><td>FL DISPLAY
UIC1(KS56C 1660)</td><td>● Drive FL DISPLAY</td><td>● Check for flatwire linking pin 15.16.17.18</td></tr>
</table>

2) TROUBLESHOOTING PROCEDURE

1) DECK PROBLEM

CHECK POWER

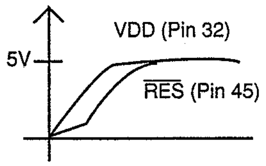
- Check FLAT wire (11P.13P.)
- Check voltage.

AIC2 Input : 13V, Output : 12V,
AIC3 Output : 12V

(NORMAL)

↓

μ-COM RESET CHECK (UIC1)



(NORMAL)

↓

CHECK MOTOR OPERATION & SOLENOID

FUNCTION	CQ2	CQ7	CQ5
P/B DECK OPERATION	Turn-on		
R/P DECK OPERATION	Turn-on		

(NORMAL)

↓

CHECK DECK ECTING WIRE

- P/B DECK 11 PIN WIRE & R/P DECK13 PIN WIRE CHECK

(NORMAL)

(2) HIGH-SPEED DUBBING PROBLEM

μ-COM & TR CHECK

Step	Pin \ FUNCTION	Hi/DUb	NOR/DUb
1	μ-COM48	H	L
2	CQ8	Turn off	Turn on
3	CQ3	Turn off	Turn on

(NORMAL)

(3) RECORDING PROBLEM

CHECK μ-COM & TR

Step	Pin \ FUNCTIO	REC
1	μ-COM 37	L
2	UQ2	Turn-on
3	LQ2. KQ10	Turn-on

(NORMAL)

(4) DUBBING PROBLEM

CHECK μ-COM & TR

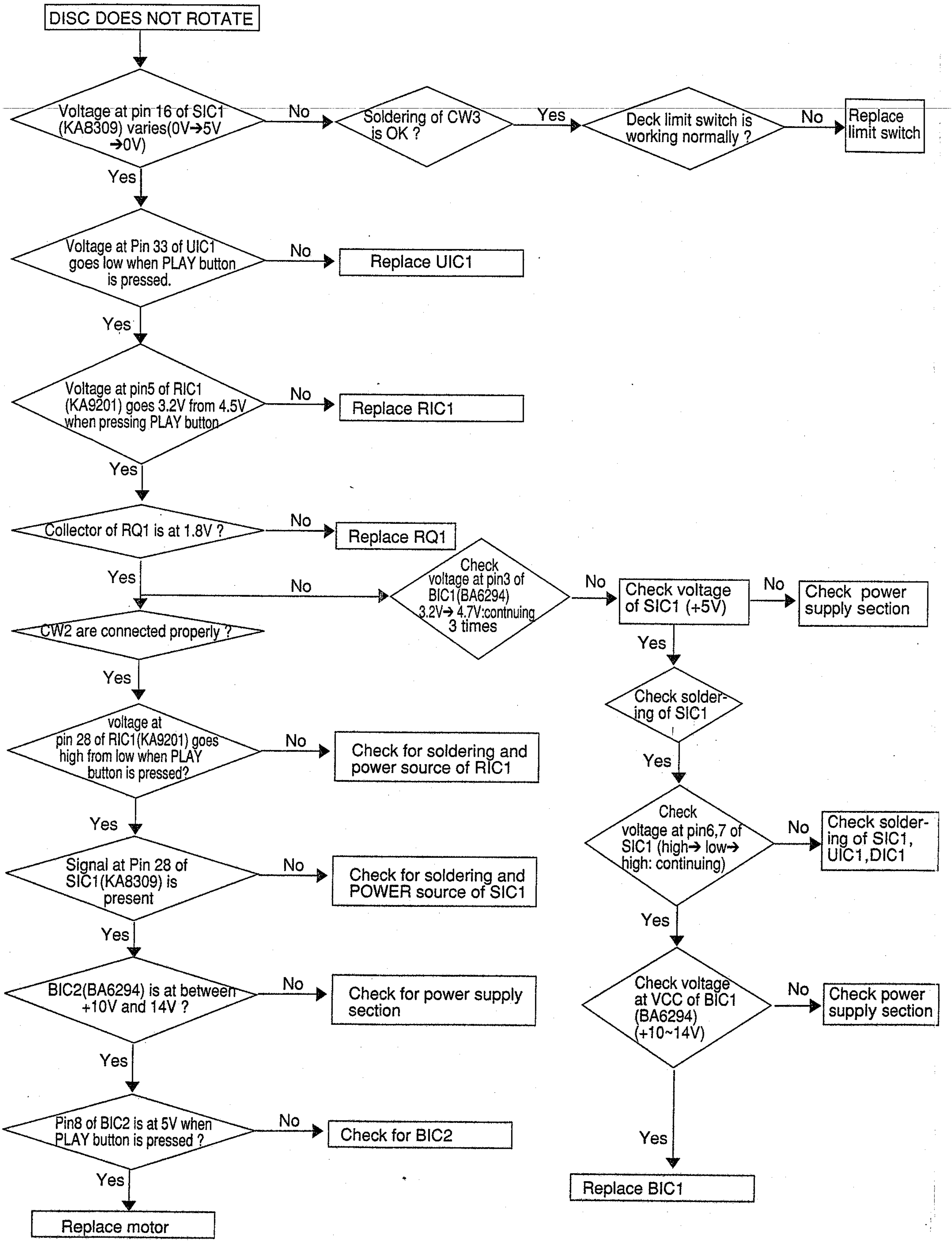
Step	Pin \ FUNCTION	DUBBING
1	DIC2 4	H
2	JIC1.9	H

(NORMAL)

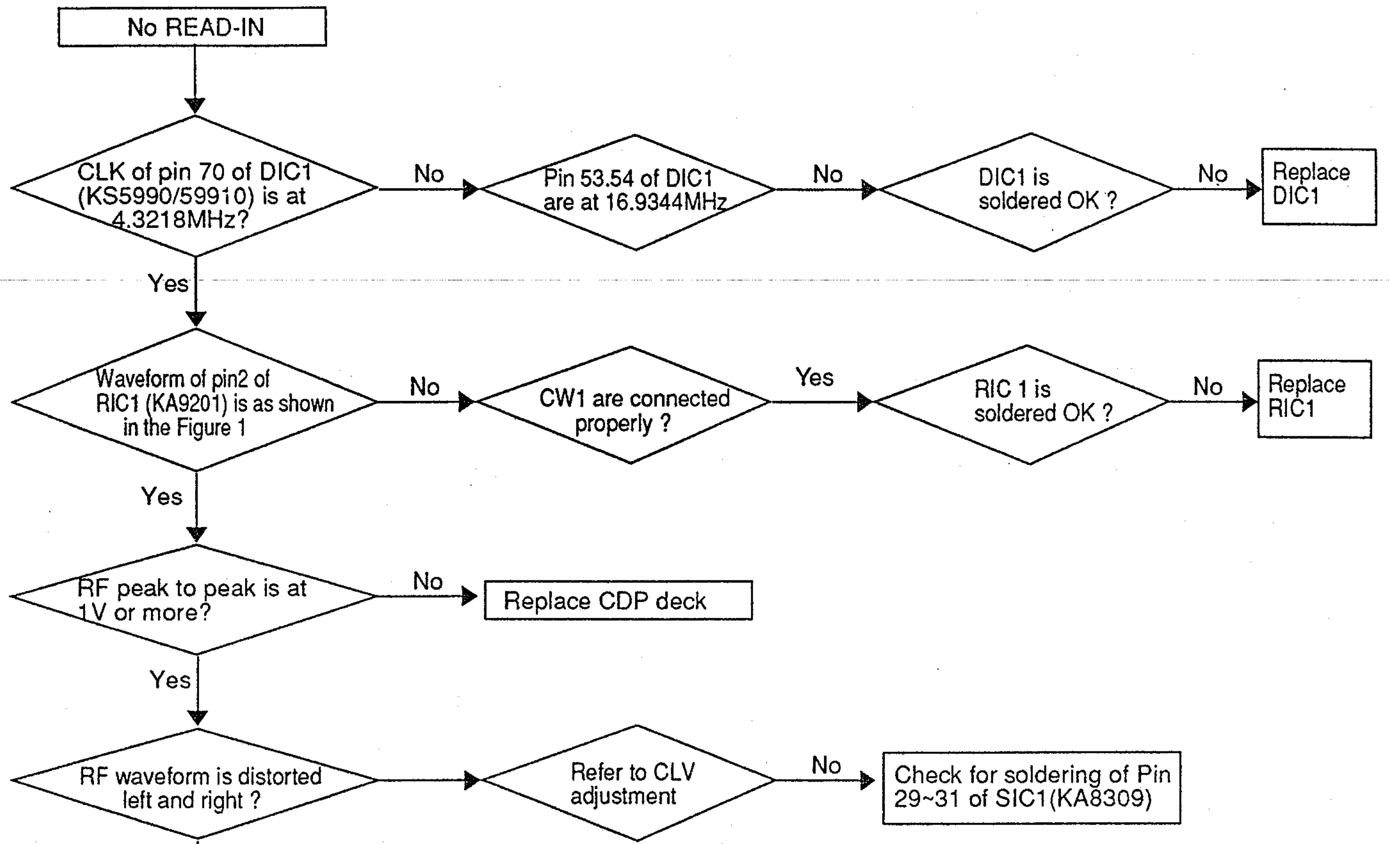
3. CD PLAYER SELCTION

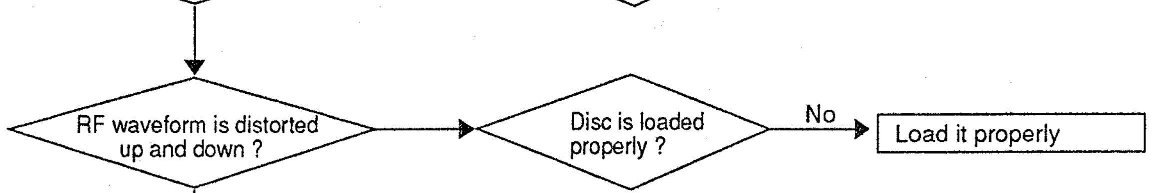
* Be sure not to use a warped or dirty disc in trobleshooting

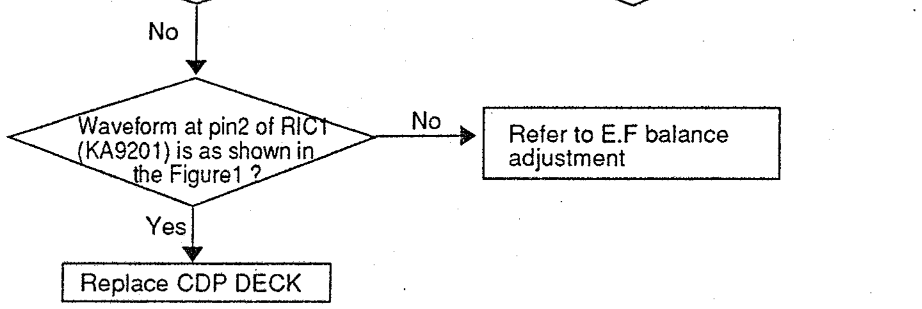
1) DISC NOT ROTATE


DISC DOES NOT ROTATE
Voltage at pin 16 of SIC1 (KA8309) varies(0V➔5V ➔0V)
No
Soldering of CW3 is OK ?
Yes
Deck limit switch is working normally ?
No
Replace limit switch
Yes
Voltage at Pin 33 of UIC1 goes low when PLAY button is pressed.
No
Replace UIC1
Yes
Voltage at pin5 of RIC1 (KA9201) goes 3.2V from 4.5V when pressing PLAY button
No
Replace RIC1
Yes
Collector of RQ1 is at 1.8V ?
No
Replace RQ1
Yes
No
Check voltage at pin3 of BIC1(BA6294) 3.2V➔ 4.7V:contnuing 3 times
No
Check voltage of SIC1 (+5V)
No
Check power supply section
Yes
Check soldering of SIC1
Yes
Check voltage at pin6,7 of SIC1 (high➔ low➔ high: continuing)
No
Check soldering of SIC1, UIC1,DIC1
Yes
Check voltage at VCC of BIC1 (BA6294) (+10~14V)
No
Check power supply section
Yes
Replace BIC1
CW2 are connected properly ?
Yes
voltage at pin 28 of RIC1(KA9201) goes high from low when PLAY button is pressed?
No
Check for soldering and power source of RIC1
Yes
Signal at Pin 28 of SIC1(KA8309) is present
No
Check for soldering and POWER source of SIC1
Yes
BIC2(BA6294) is at between +10V and 14V ?
No
Check for power supply section
Yes
Pin8 of BIC2 is at 5V when PLAY button is pressed ?
No
Check for BIC2
Yes
Replace motor

2) NO READ-IN


No READ-IN
CLK of pin 70 of DIC1 (KS5990/59910) is at 4.3218MHz?
No
Pin 53.54 of DIC1 are at 16.9344MHz
No
DIC1 is soldered OK ?
No
Replace DIC1
Yes
Waveform of pin2 of RIC1 (KA9201) is as shown in the Figure 1
No
CW1 are connected properly ?
Yes
RIC 1 is soldered OK ?
No
Replace RIC1
Yes
RF peak to peak is at 1V or more?
No
Replace CDP deck
Yes
RF waveform is distorted left and right ?
Refer to CLV adjustment
No
Check for soldering of Pin 29~31 of SIC1(KA8309)


RF waveform is distorted up and down ?
Disc is loaded properly ?
No
Load it properly


No
Waveform at pin2 of RIC1 (KA9201) is as shown in the Figure1 ?
No
Refer to E.F balance adjustment
Yes
Replace CDP DECK

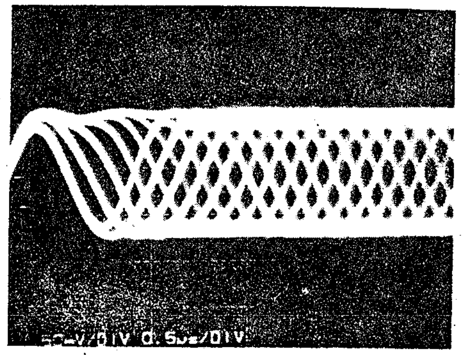
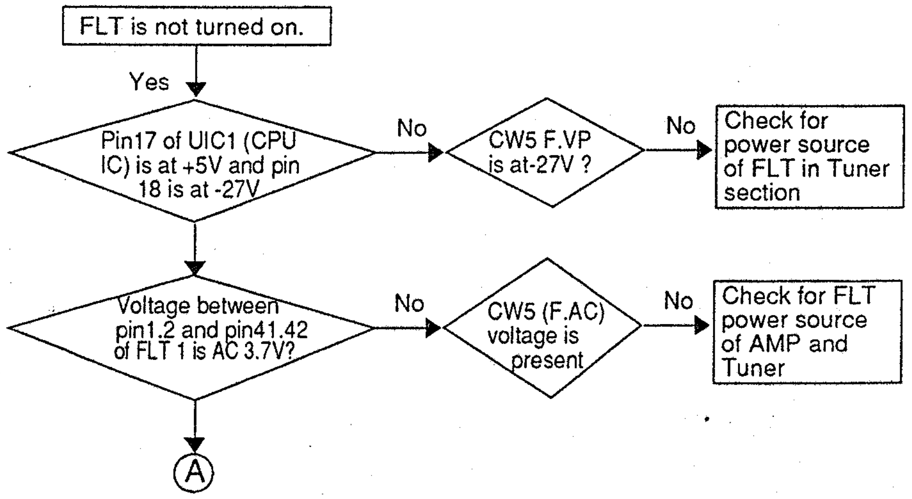


FIG.1

3) NO DISPLAY


FLT is not turned on.
Yes
Pin17 of UIC1 (CPU IC) is at +5V and pin 18 is at -27V
No
CW5 F.VP is at-27V ?
No
Check for power source of FLT in Tuner section
Voltage between pin1.2 and pin41.42 of FLT 1 is AC 3.7V?
No
CW5 (F.AC) voltage is present
No
Check for FLT power source of AMP and Tuner
Ⓐ

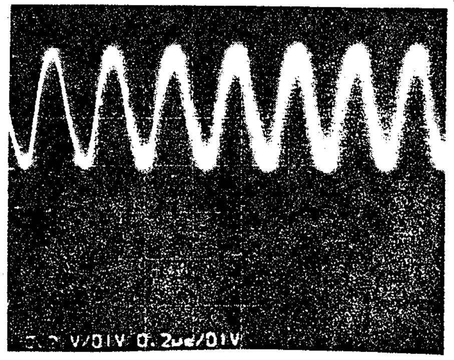
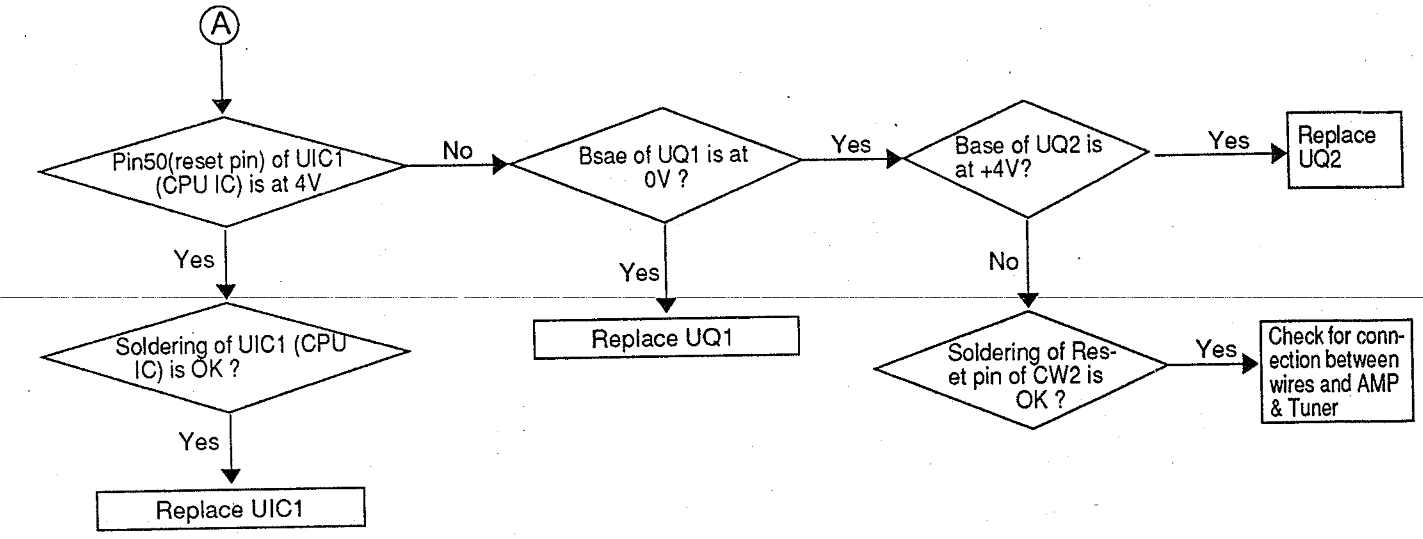
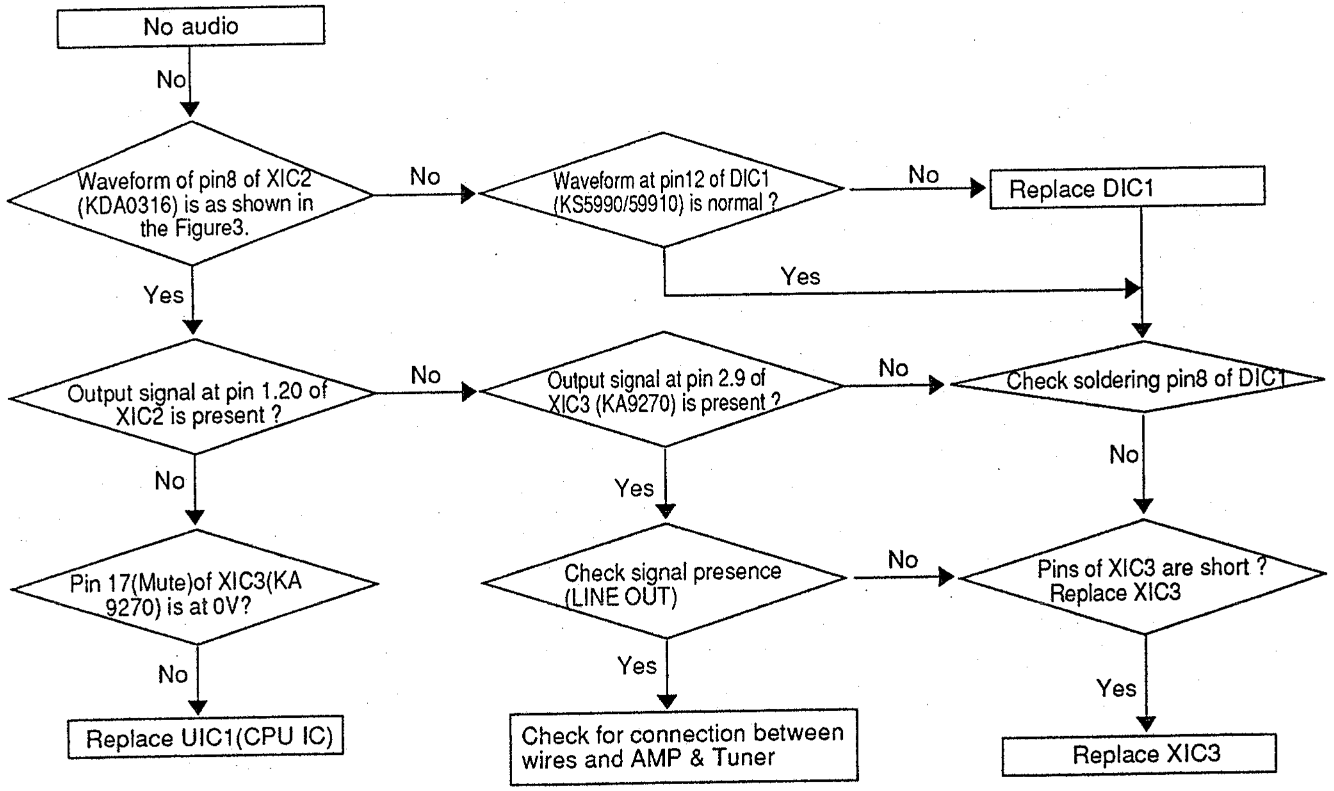


FIG.2


A
Pin50(reset pin) of UIC1 (CPU IC) is at 4V
No
Bsae of UQ1 is at 0V ?
Yes
Base of UQ2 is at +4V?
Yes
Replace UQ2
Yes
Yes
No
Soldering of UIC1 (CPU IC) is OK ?
Replace UQ1
Soldering of Reset pin of CW2 is OK ?
Yes
Check for connection between wires and AMP & Tuner
Yes
Replace UIC1

4) NO AUDIO OUTPUT


No audio
No
Waveform of pin8 of XIC2 (KDA0316) is as shown in the Figure3.
No
Waveform at pin12 of DIC1 (KS5990/59910) is normal ?
No
Replace DIC1
Yes
Yes
Output signal at pin 1.20 of XIC2 is present ?
No
Output signal at pin 2.9 of XIC3 (KA9270) is present ?
No
Check soldering pin8 of DIC1
No
Yes
No
Pin 17(Mute)of XIC3(KA 9270) is at 0V?
Check signal presence (LINE OUT)
No
Pins of XIC3 are short ? Replace XIC3
No
Yes
Yes
Replace UIC1(CPU IC)
Check for connection between wires and AMP & Tuner
Replace XIC3

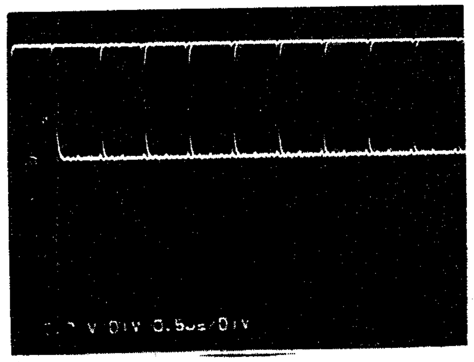


FIG.3

ADJUSTMENT

Adjustments to this unit have already been made during production procedure.
If parts related to the adjustment are replaced, or readjustment is required, proceed with adjustments in the order given below.

1. TUNER SECTION

1) MEASURING INSTRUMENTS REQUIRED

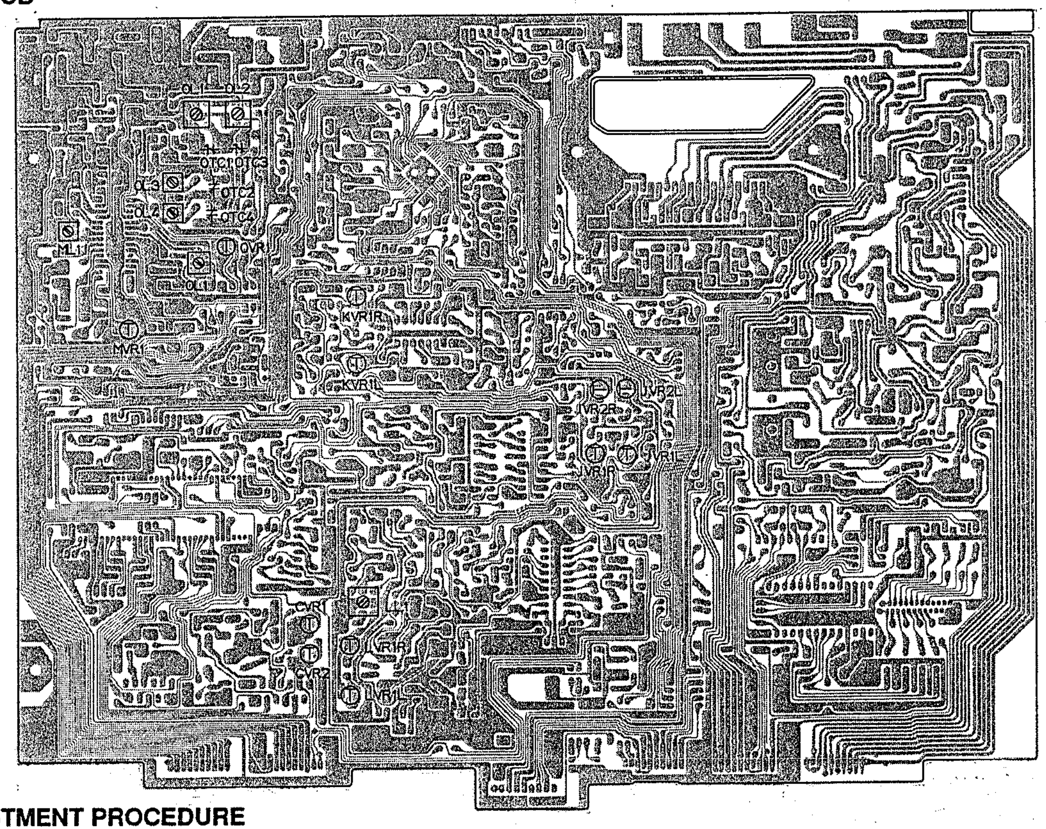
(1) AM standard signal generator (S.S.G)
: 400HZ, 30% MOD.
(2) FM standard signal generator
: output impedance 75 Ω , (or 300 Ω dummy),
1KHz, 40KHz DEV.
(3) Oscilloscope
(4) VTVM
(5) Loop antenna
(6) Dummy load (8 Ω)
(7) DC voltmeter
(8) Frequency Counter

2) IMPORTANT

(1) Check the power source first.
(2) Check function and band switch.
(3) The equalizer, volume and balance control should be tuned to the mid position.

3) LOCATION OF ADJUSTMENT POINTS (PARTS SIDE)

MAIN PCB


OL1
OL2
OTC1
OTC3
OL3
OTC2
OL4
OTC4
ML1
OVR
OL1
MVR1
KVR1R
KVR1L
VR2R
VR1R

4) ADJUSTMENT PROCEDURE

(1) FM ADJUSTEMENT

STEP	ITEM	CONNECTION	SSG FREQ	FREQ.SETTING	ADJUSTMENT POINT	RESULT & REMARK
1	IF CENTER & T.H.D adjustement	FIG. 1	98MHz	98MHz	ML1	Maximum output Minimum distortion
2	Auto search level adjustement	FIG. 2	98MHz	98MHz	OVR1	"TUNED" is shown on FLT
3	FM stereo separation adjustment	FIG. 3	98MHz	98MHz	MVR1	If L-CH is input, R-CH should be minimum and vice-versa.

* High coverage and tracking adjustement are not required.

2. TAPE RECORDER

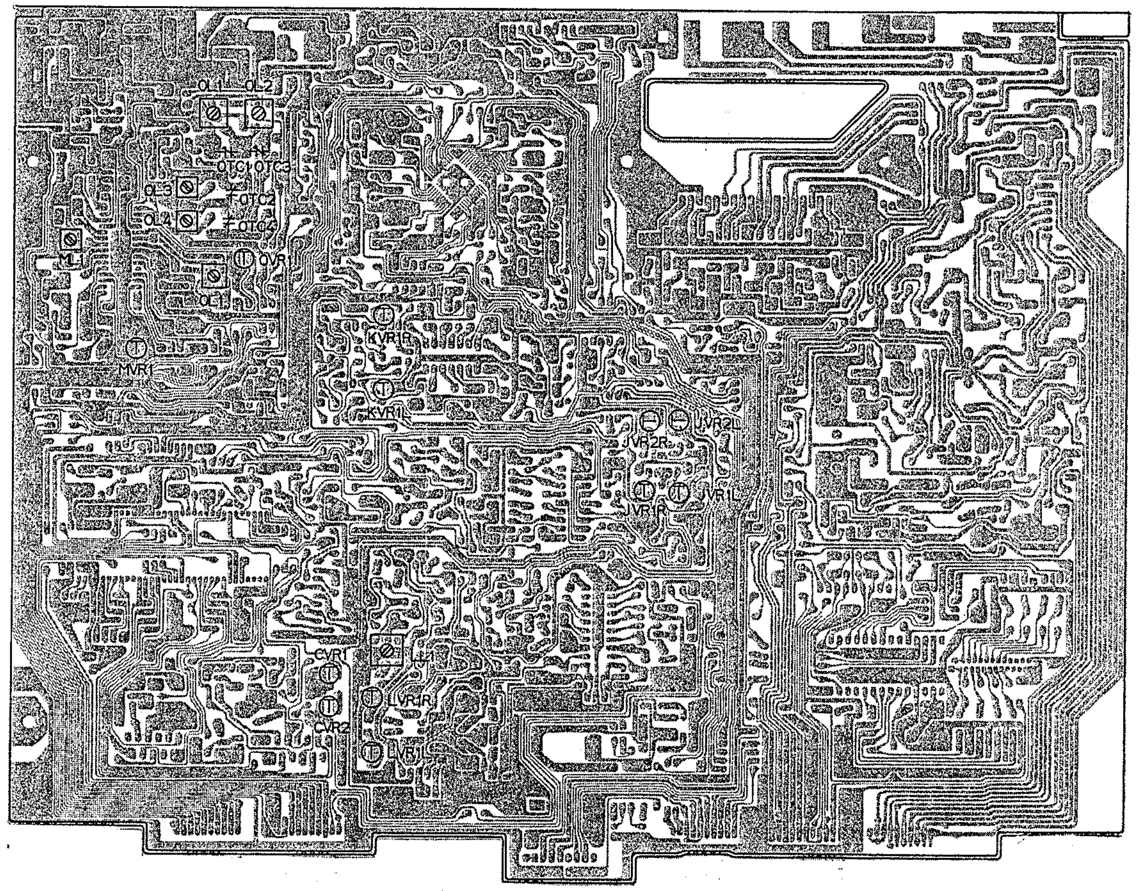
1) MEASURING INSTRUMENTS REQUIRED

(1) Oscilloscope
(2) VTVM
(3) TAPE

① MTT-111 (or equivalent) : 3KHz signal is recorded → tape speed
② MTT-114NA (or equivalent) : 12.5KHz signal is recorded → Azimuth
③ MTT-150 (or equivalent) : 200mwb/m is recorded by DOLBY level.
④ MTT-5521 (or equivalent) : NORMAL
⑤ MTT-5561 (or equivalent) : CrO2

2) LOCATION OF ADJUSTMENT POINTS (PARTS SIDE)

MAIN PCB


OL1
OL2
OTC1
OTC3
OL3
OTC2
OL4
OTC4
ML1
OVR1
OL5
MVR1
KVR1R
KVR1L
JVR2R
JVR2L
JVR1R
JVR1L
CVR1
CVR2
VR1R
VR1L

3) ADJUSTMENT PROCEDURE

(1) TAPE SPEED
* Set DOLBY NR switch to off

STEP	ITEM	CONNECTION	PREPARATION	ADJUSTMENT POINT	RESULT & REMARK
1	Normal speed adjustment	FIG. 1 Connect Line output to frequency counter	Insert MTT-111 to DECK A,B Press PLAY button.	CVR1	3KHz ±1%
2	High speed adjustment	FIG. 1 Connect Line output to frequency counter	1) Insert MTT-111 to DECK A 2) Insert MTT-5521 to DECK B 3) Press Hi-speed Dubbing Button.	CVR2	6KHz±1%

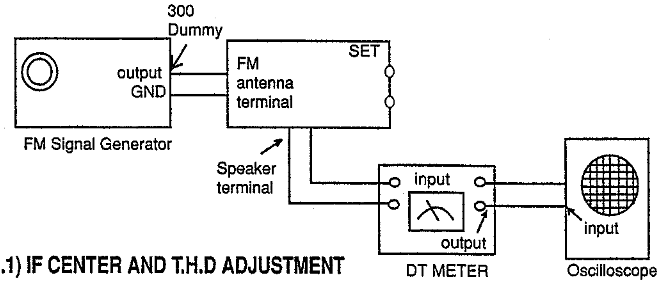

300
Dummy
output
GND
SET
FM
antenna
terminal
FM Signal Generator
Speaker
terminal
input
output
DT METER
input
Oscilloscope

FIG.1) IF CENTER AND T.H.D ADJUSTMENT

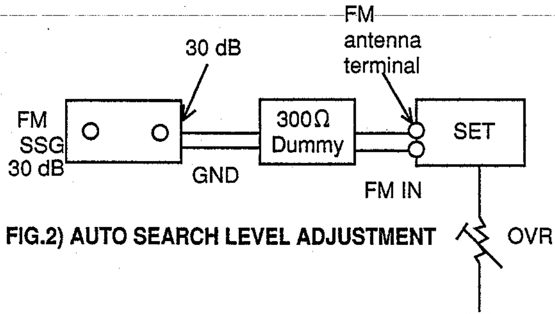

30 dB
FM
antenna
terminal
FM
SSG
30 dB
300Ω
Dummy
SET
GND
FM IN
OVR1

FIG.2) AUTO SEARCH LEVEL ADJUSTMENT

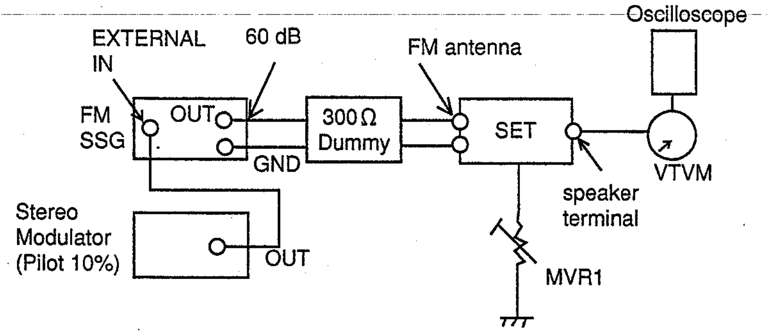

EXTERNAL
IN
60 dB
FM antenna
Oscilloscope
FM
SSG
OUT
300Ω
Dummy
GND
SET
VTVM
speaker
terminal
Stereo
Modulator
(Pilot 10%)
OUT
MVR1

FIG.3) STEREO SEPARATION ADJUSTMENT

(2) AM ADJUSTMENT

① 2 BAND (FM/AM)

STEP	ITEM	CONNECTION	SSG FREQ.	FREQUENCY SETTING	ADJUSTMENT POINT	RESULT & REMARK
1	Intermidiate frequency (IF) adjustment	FIG. 4	450	594KHz	OL5	Maximum output
2	AM frequency coverage adjustment	Connect DC voltmeter to TP1, TG.	—	522KHz	OL4	0.9V
3			—	1611KHz	OTC4	9V
4	Repeat step 2 and 3 several times.					
5	AM tracking adjustment.	FIG. 4	594KHz	594KHz	OL2	Maximum output.
6			1404KHz	1404KHz	OTC3	
7	Repeat step 5 and 6 several times.					

② 3 BAND (FM/MW/LW)

STEP	ITEM	CONNECTION	SSG FREQ.	FREQUENCY SETTING	ADJUSTMENT POINT	RESULT & REMARK
1	LW frequency coverage adjustment	Conect DC voltmeter to TP1,TG	—	146KHz	OL3	0.9V
2			—	290KHz	OTC2	5V
3	Repeat step 1 and 2 swveral times					
4	LW tracking adjustment.	FIG. 4	160KHz	160KHz	OL1	Maximum output.
5			270KHz	270KHz	OTC1	
6	Repeat step 4 and 5 several times.					

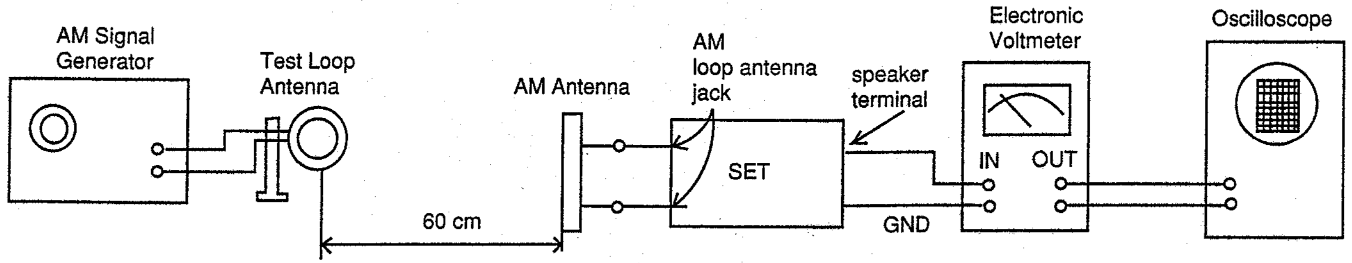

AM Signal
Generator
Test Loop
Antenna
AM Antenna
AM
loop antenna
jack
speaker
terminal
Electronic
Voltmeter
Oscilloscope
SET
IN
OUT
GND
60 cm

FIG.4) AM LW TRACKING, AM IF ADJUSTMENT

(2) AZIMUTH ADJUSTMENT (DECK A,B)

* Set DOLBY NR switch to off.

STEP	ITEM	CONNECTION	PREPARATION	ADJUSTMENT POINT	RESULT & REMARK
1	AZIMUTH (DECK A,B) Adjustment	Line output : VTVM and OSCILLOSCOPE FIG 2	Play MTT-114NA in the DECK A,B Press play button [Remove to A(B) DECK door, it adjust CAP-AZI. A(B)]	FIG.3	Maximum output and same phase of L, R-CH. Fix the screw.

(3) DOLBY LEVEL ADJUSTMENT

* Set DOLBY NR switch to off.

STEP	ITEM	CONNECTION	PREPARATION	ADJUSTMENT POINT	RESULT & REMARK
1	Playback output level (DECK A) Adjustment	FIG.2 TP3.4.5	Play MTT-150 in the DECK A.	L-CH : JVR1L R-CH : JVR1R	550mv±1dB at T.P
2	Playback output level (DECK B) Adjustment	FIG.2 TP3.4.5	Play MTT-150 in the DECK B.	L-CH : JVR2L R-CH : JVR2R	550mv±1dB at T.P

(4) RECORD AND PLAYBACK ADJUSTMENT

* Set DOLBY NR switch to off.

STEP	ITEM	CONNECTION	PREPARATION	ADJUSTMENT POINT	RESULT & REMARK
1	Bias oscillation frequency Adjustment	FIG.1 CW4	Record MTT-5521 in the DECK B. Press record button.	LL1	105KHz ±1%
2	Bias current Adjustment	FIG.2 CW4	Record MTT-5521 in the DECK B. Press record button.	L-CH : LVR1L R-CH : LVR1R	VTVM : 12V±5% at CW4
3	Signal current Adjustment	FIG.4 (Apply 400Hz 400mV sine wave to AUX input) SIG. TP	Record MTT-5521 in the DECK B. Press record button.	L-CH : KR1L R-CH : KR1R	VTVM : 580mV at sig T.P

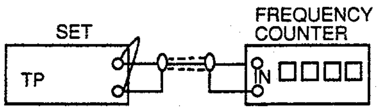

SET
TP
FREQUENCY COUNTER
IN

FIG. 1

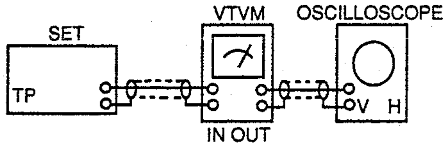

VTVM
OSCILLOSCOPE
SET
TP
IN OUT
V
H

FIG. 2

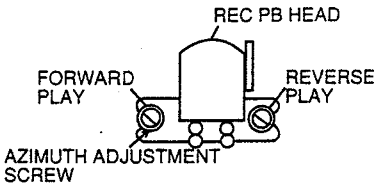

REC PB HEAD
FORWARD PLAY
REVERSE PLAY
AZIMUTH ADJUSTMENT SCREW

FIG. 3

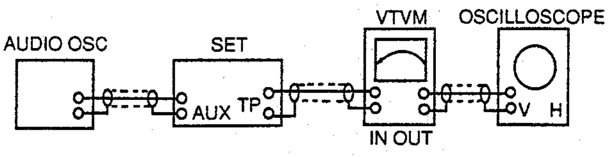

VTVM
OSCILLOSCOPE
AUDIO OSC
SET
AUX
TP
IN OUT
V
H

FIG. 4

3. CD PLAYER SECTION

1) MEASURING INSTRUMENT

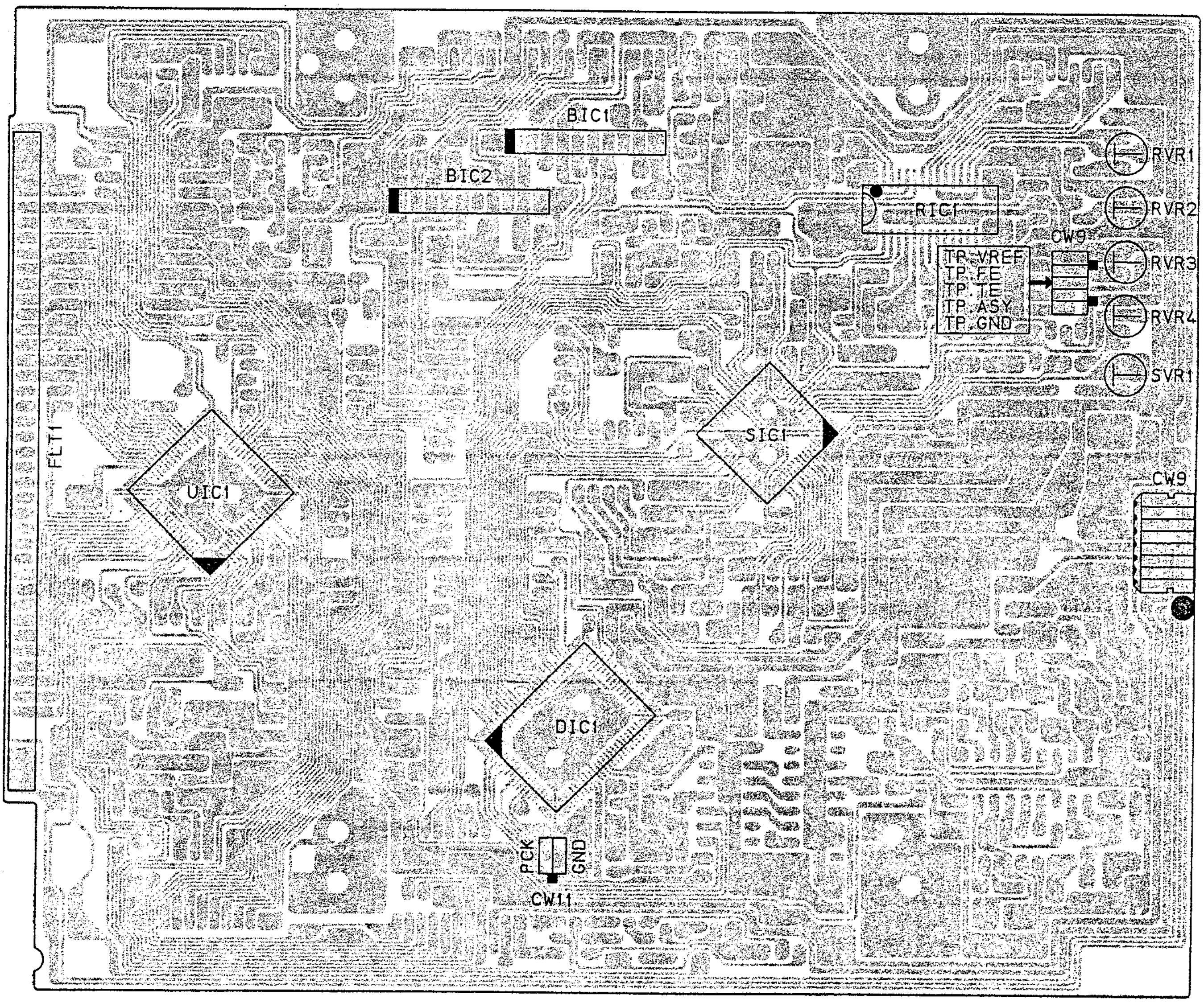
(1) Oscilloscope (Frequency ≥ 100MHz)
(2) Probe (10 : 1)
(3) Frequency counter

2) IMPORTANT

(1) Semi-Volume position can be a little different according to unit.
(2) Be sure not to use a warped or dirty disc in adjusting.
(3) When adjusting Semi-Volume, use plastic screw driver.

3) LOCATION OF ADJUSTMENT POINTS (PARTS SIDE)

CD PCB


BIC1
BIC2
RIC1
RVR1
RVR2
CW9
RVR3
TP.VREF
TP.FE
TP.TE
TP.ASY
TP.GND
RVR4
SVR1
FLT1
SIC1
UIC1
CW9
DIC1
PCK
GND
CW11

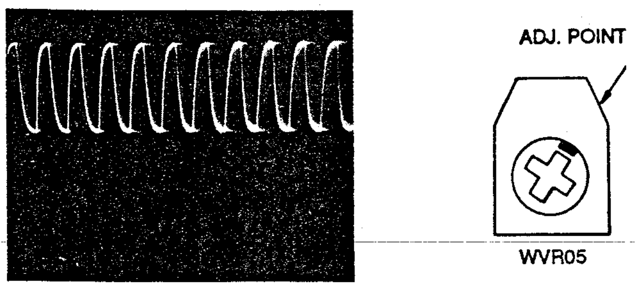
SVR1 : VCO adjustment.
RVR1 : E-F balance adjustment.
RVR2 : Focus bias adjustment.
RVR3 : Focus gain adjustment.
RVR4 : Tracking gain adjustment.
CW9,CW11 : To oscilloscope signal part
To oscilloscope GND part.

(1) ADJUSTMENT PROCEDURE

(1) CVCT ADJUSTMENT

① Turn power on and load a disc.
② Frequency counter connection.
(+) terminal ; CW11.PCK
(-) terminal ; CW11.GND
③ Connect ASY to CW9 ASY GNA shown.
④ Adjust SVR1 so the frequency counter reads 4.44 ~ 4.45MHz. (Adjust in stop mode)
⑤ Disconnect ASY from GND

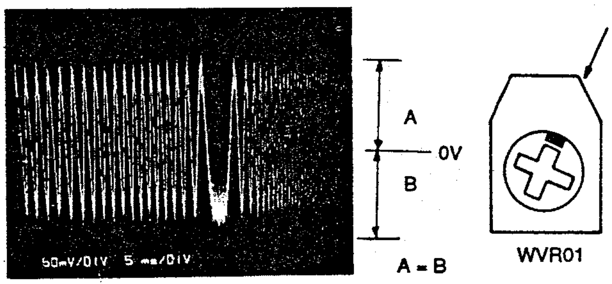
CLV



(2) E-F BALANCE ADJUSTMENT

① Turn power on and load a disc.
② Press play button.
③ Oscilloscope setting and connection
VOLT/DIV ; 50mV (+) terminal ; CW9,TE
TIME/DIV ; 5mS (-) terminal ; CW9,Vref
④ Adjust RVR4 fully counter clockwise.
⑤ Adjust RVR1 so the waveform is as shown in the picture.
⑥ Set RVR4 back to the place it was before adjustment.

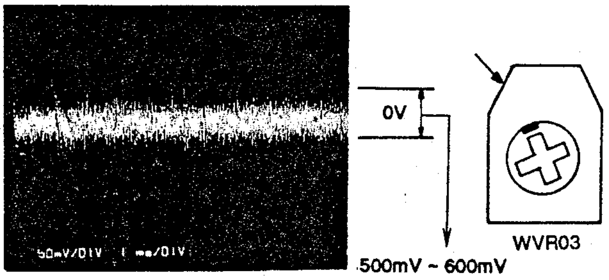
E-F BALANCE



(3) TRACKING GAIN ADJUSTMENT

① Turn power on and load a disc.
② Press play button.
③ Oscilloscope setting and connection
VOLT/DIV ; 50mV (+) terminal ; CW9,TE
TIME/DIV ; 1mS (-) terminal ; CW9,Vref
④ Adjust RVR4 so the peak to peat waveform is as shown in the picture.

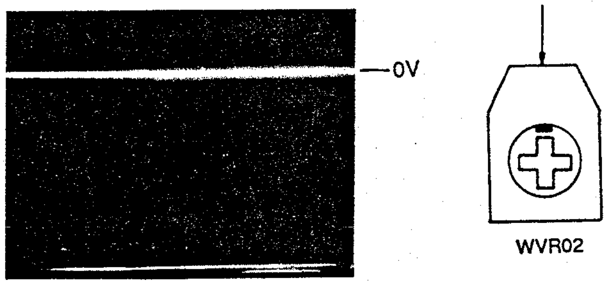
TRACKING GAIN



(4) FOCUS BIAS ADJUSTMENT

① Turn power on and load a disc.
② Oscilloscope setting and connection
VOLT/DIV ; 10mV (+) terminal ; CW9,FE
TIME/DIV ; 20mS (-) terminal ; CW9,Vref
③ Adjust RVR3 so the peak to peak waveform is as shown in the picture.

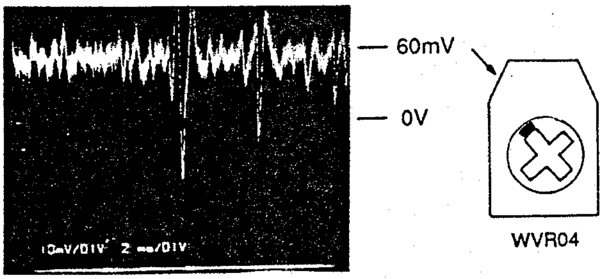
FOCUS BIAS



(5) FOCUS GAIN ADJUSTMENT

① Turn power on and load a disc.
② Press play button.
Oscilloscope setting and connection
VOLT/DIV ; 10mV (+) terminal ; CW9,FE
③ TIME/DIV ; 20µS (-) terminal ; CW9,Vref
④ Adjust RVR2 so the waveform is as shown in the picture.(Adjust in stop mode)

FOCUS GAIN



10 : 1 damping probe was used

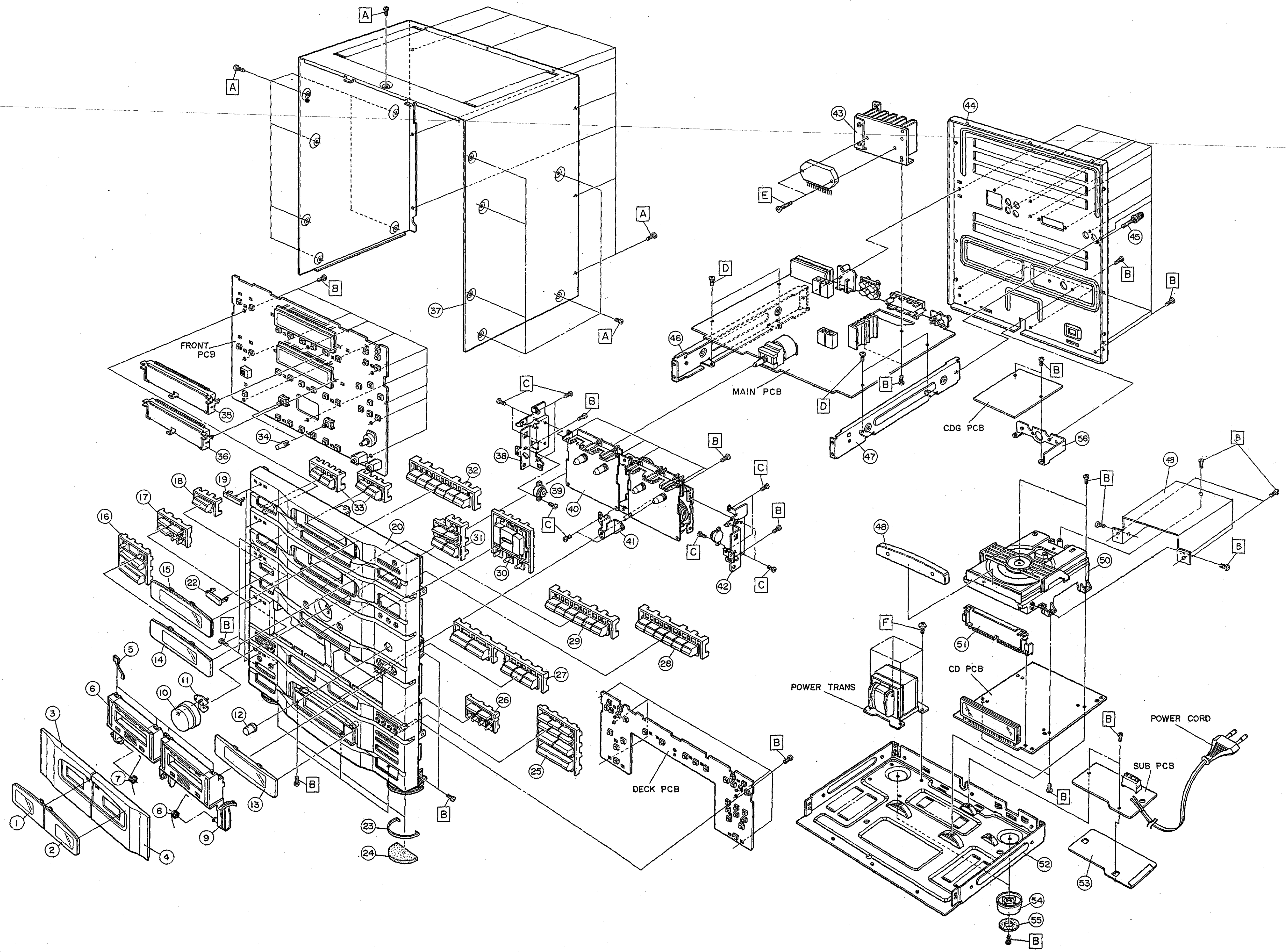
■ EXPLODED VIEW & PARTS LIST

1. MAIN SECTION

- MECHANICAL PARTS

No	CODE No.	DESCRIPTION	Q'TY	REMARK
1	14074-0056-00	WINDOW-DOOR(A) : PMMA SMOKE	1	
2	14074-0057-00	WINDOW-DOOR(B) : PMMA SMOKE	1	
3	14042-0029-00	DOOR-CASS(A) : ABS BLK	1	
4	14042-0030-00	DOOR-CASS(B) : ABS BLK	1	
5	16674-518-510	SPRING-TAPE : SUS T0.35	4	
6	13322-0039-00	HOLDER-CASS(A) : ABS BLK	1	
7	12724-0054-00	SPRING-DECK(L) : SUS #27	1	
8	12724-0055-00	SPRING-DECK(R) : SUS #27	1	
9	13322-0040-00	HOLDER-CASS(B) : ABS BLK	1	
10	14083-0152-00	KNOB-VOLUME : ABS BLK	1	
11	12714-0009-00	LENS-VOLUME : PMMA	1	
12	14083-0197-00	KN0B-BALANCE : ABS BLK	1	
13	14074-0058-00	WINDOW-CD : PMMA SMOKE	1	
14	14074-0061-00	WINDOW-TUNER : PMMA SMOKE	1	
15	14074-0061-01	WINDOW-EQ : PMMA SMOKE	1	
16	14082-0150-00	KNOB-CD,STOP : ABS BLK	1	
17	14082-0147-00	KNOB-DECK(A) : ABS BLK	1	
18	14083-0146-00	KNOB-POWER : ABS BLK	1	
19	14013-0008-00	INLAY-BRAND : MIPS BLK	5	
20	12000-0056-00	CABINET-FRONT : ABS BLK	1	
22	14074-0062-00	WINDOW-REMOCON : PC SMOKE	1	
23	14124-0005-00	DECO-FOOT : AL 0.3t	2	
24	16174-504-210	CUSHION-FOOT ; RUBBER SPONGE	2	
25	14082-0151-00	KNOB-CD PLAY : ABS BLK	1	
26	14082-0148-00	KNOB-DECK (B) : ABS BLK	1	
27	14082-0149-00	KNOB-DECK PLAY : ABS BLK	1	
28	14082-0143-03	KNOB-FUNCTION : ABS BLK	1	
29	14082-0143-02	KNOB-MEMORY EQ : ABS BLK	1	
30	14082-0145-00	KNOB-EQ : ABS BLK	1	
31	14082-0144-00	KNOB-TUNER : ABS BLK	1	
32	14082-0143-01	KNOB-TIMER ; ABS BLK	1	
33	14082-0142-00	KNOB-FM MODE ; ABS BLK	2	
34	14083-0153-00	KNOB-SURROUND ; ABS BLK	2	
35	13321-0041-00	HOLDER-TUNER ; ABS BLK	1	
36	13321-0042-00	HOLDER-EQ ; ABS BLK	1	
37	12000-0059-00	CABINET-TOP ; PVC STEEL 0.75t	1	
38	13013-0049-00	BRACKET-DECK (L) ; SECC 1.0t.	1	
39	15009-552-510	DAMPER-ASSY ; POM	2	
40	19680-015-200	CASSE-DECK ASS'Y	1	
41	13014-0052-00	BRACKET-DECK (C) ; SECC 1.0t	1	
42	13013-0050-00	BRACKET-DECK (R) ; SECC 1.0t	1	
43	11123-0027-00	HEAT-SINK ASSY ; ALS	1	
44	12001-0058-00	CABINET-REAR ; SECC 0.8t	1	
45	13104-501-630	TERMINAL-SCREW ; SPC1+ABS BLK	1	
46	12002-0036-00	CHASSIS-FRAME (L) ; SECC 0.8t	1	
47	12002-0037-00	CHASSIS-FRAME (R) ; SECC 0.8t	1	
48	14043-0031-00	DOOR-CD ; ABS BLK	1	
49	13313-0066-00	COVER-CD ; SECC 1.0t	1	
50	14929-407-010	DECK-CD ; CMS-V10/A	1	
51	13322-0024-00	HOLDER FL CD ; ABS BLK	1	
52	12001-0057-00	CABINET-BOTTOM ; SECC 0.8t	1	
53	17864-503-640	COVER-FUSE, PCB ; PVC 0.5t	1	
54	16074-503-010	HOLDER-FOOT ; HIPS BLK	2	
55	16804-521-710	FOOT-CONTACT ; EVA RUBBER	2	
A	17458-230-103	SCREW-TAP TITE BH ; B-3x10 FZB	18	
B	17458-230-101	SCREW-TAP TITE BH ; 2S-3x10 FE FZY	52	
C	17004-504-010	SCREW-PH,TAP TITE ; +M 2x4 FE FZY	12	
D	17558-230-101	SCREW-TAP BH SPEC ; 2S-3x10 FE FZY	4	
E	17448-130-201	SCREW-TAP TITE BH ; B-3x20 FE FZY	2	
F	17128-540-083	SCREW-TAP TH ; 2S-4x8 FE FZY	4	

EXPLODED VIEW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MAIN PCB
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SUB PCB
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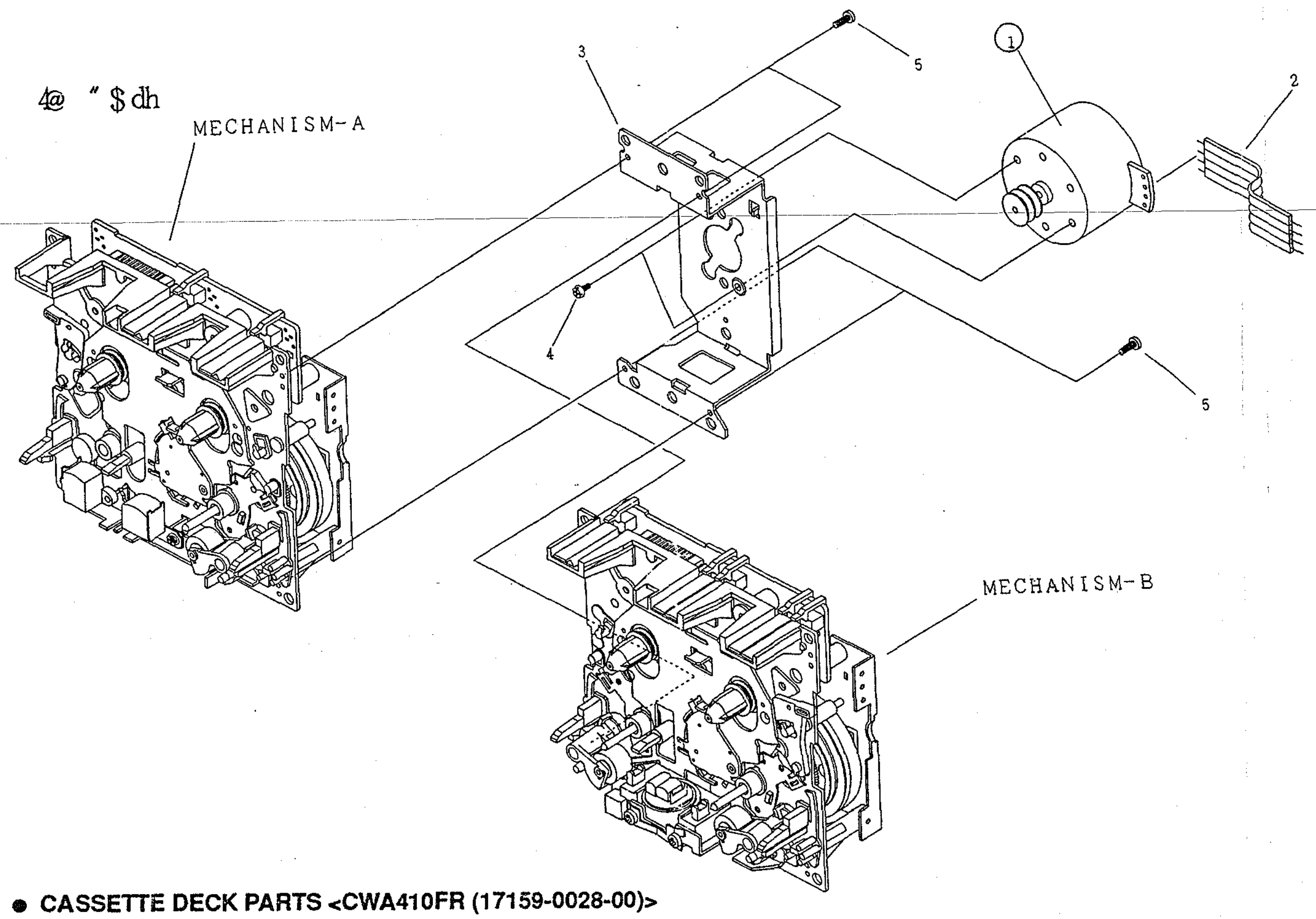
2. CASSETTE DECK ASS'Y SECTION

- **EXPLODED VIEW**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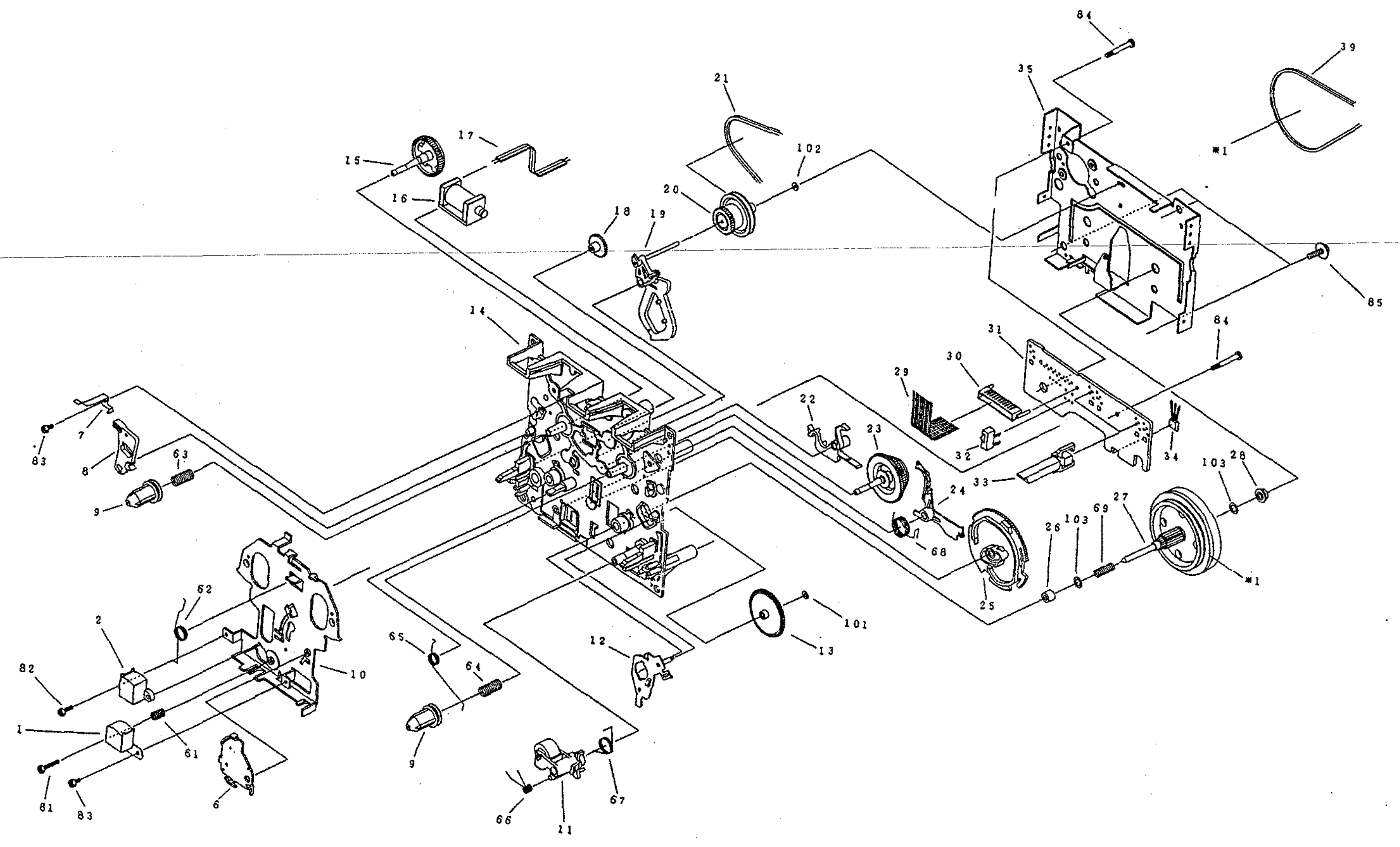
1) DECK-A (P/B DECK)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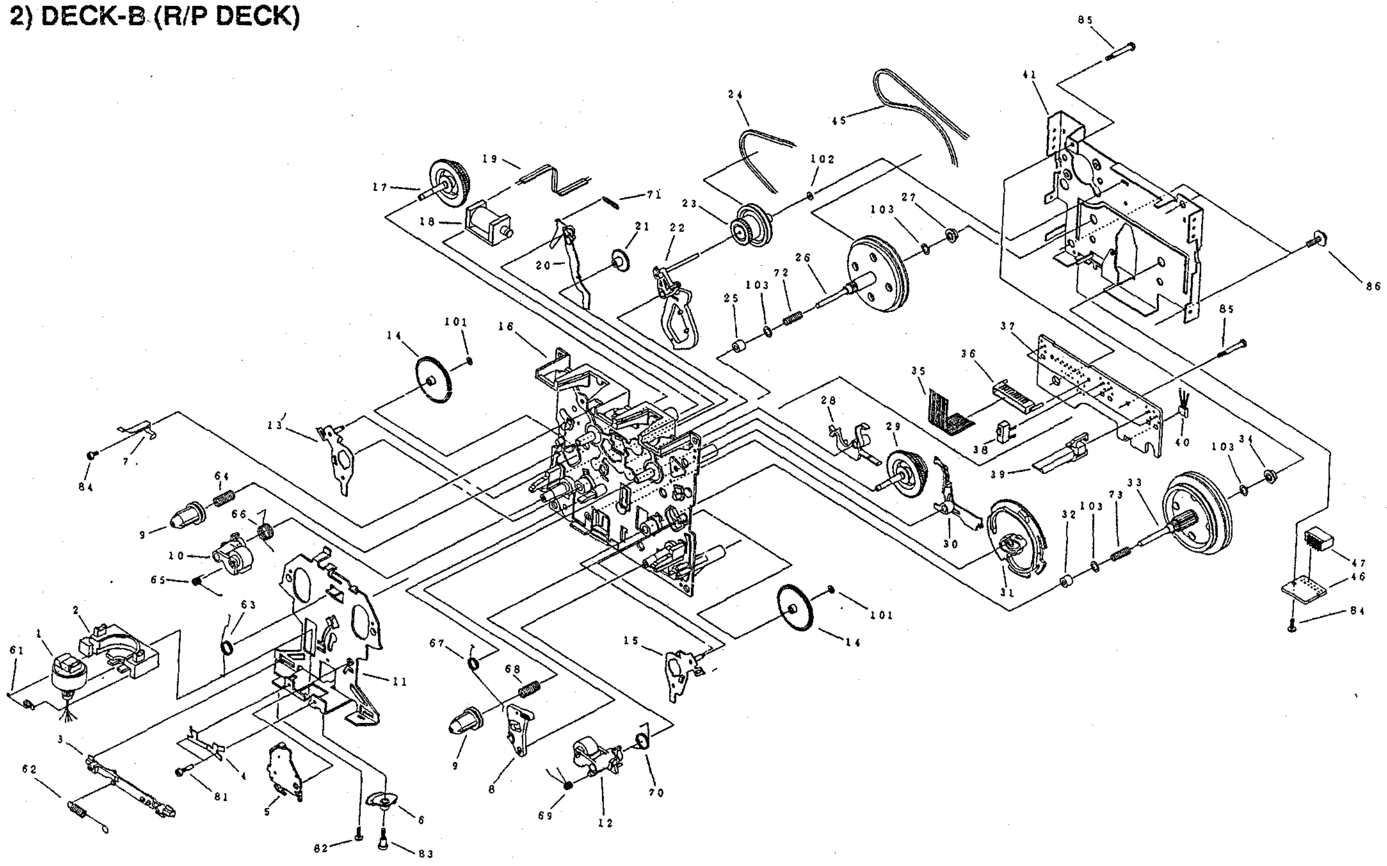
2) DECK-B (R/P DECK)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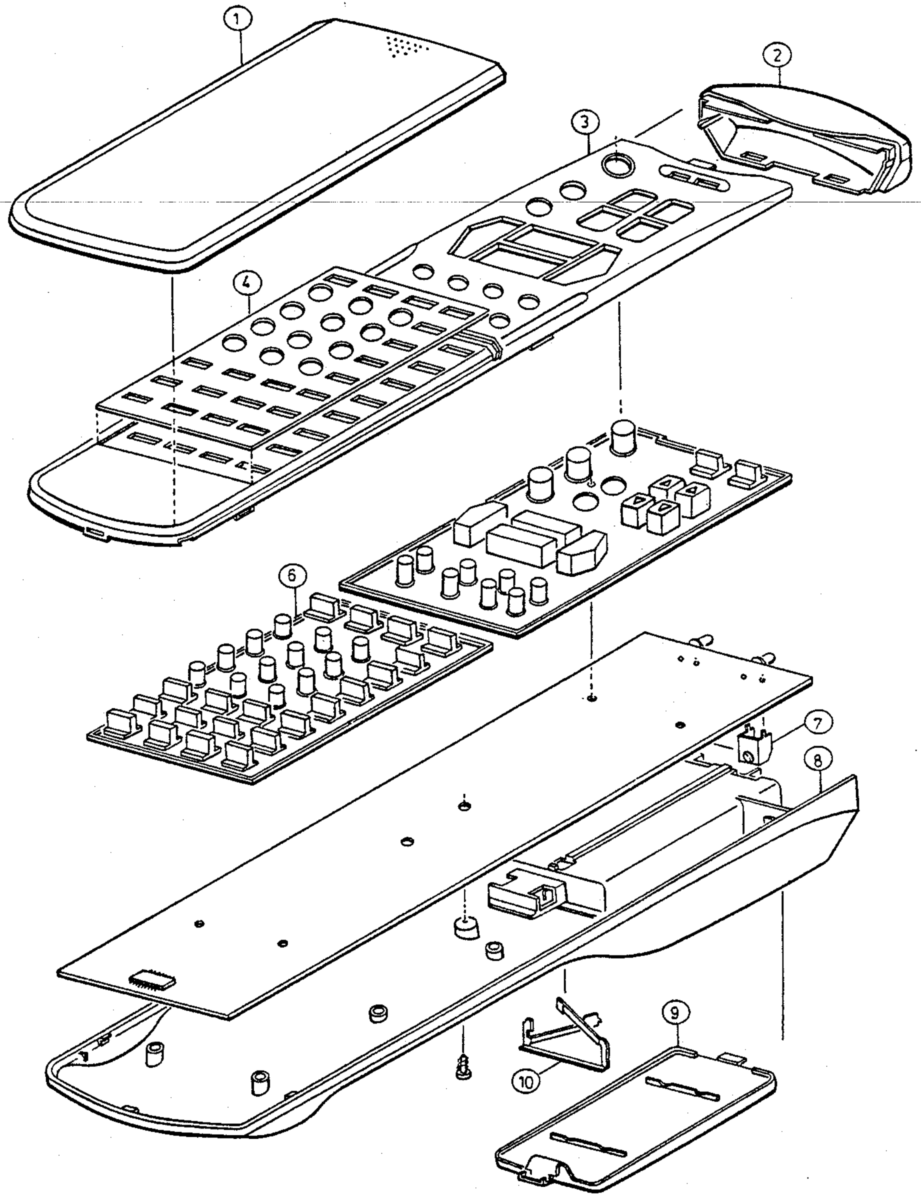
- **CASSETTE DECK PARTS <CWA410FR (17159-0028-00)>**

No.	CODE No.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
1	10000-503-002	ASS'Y MOTOR ; SHL12L	1	
2	10000-524-023	ASS'Y HOLDER HEAD ; 22-093-4269	1	B DECK
3	10000-523-008	R/P HEAD ; MS15R AA2N1	1	A
4	10000-611-009	CAP REEL ; 22-222-4041	4	
5	10000-611-010	ASS'Y PINCH ARM L ; 22-093-4149	1	B
6	10000-611-012	ASS'Y PINCH ARM R ; 22-093-4150	2	
7	10000-611-057	GEAR PLAY ; 22-222-4282	3	
8	10000-611-015	REEL GEAR ; 22-222-3030	1	A
9	10000-611-017	ASS'Y SUB REEL L : 22-093-3071	1	B
10	10000-611-018	SOLENOID ; 07-W021C	2	
11	10000-611-021	GEAR FF ; 22-222-4048	2	
12	10000-611-022	ASS'Y ARM FR ; 22-093-4061	2	
13	10000-611-023	ASS'Y PULLEY FR ; 22-093-3060	2	
14	10000-611-024	BELT FR ; 02-083-4059	2	
15	10000-611-026	ASS'Y FLYWHEEL L2 ; 22-093-3142	1	B
16	10000-611-028	ARM BRAKE ; 22-239-3028	2	
17	10000-611-029	ASS'Y SUB REEL R ; 22-093-4151	2	
18	10000-611-030	ARM TRIGER ; 22-268-3008	2	
19	10000-611-031	GEAR CAM ; 22-221-2090	2	
20	10000-611-033	ASS'Y FLYWHEEL R2 ; 22-093-3141	1	B
21	10000-611-027	ASS'Y FLYWHEEL R ; 22-093-3050	1	A
22	10000-611-035	WIRE (13P) ; 22-072-4080	1	B
23	10000-611-048	WIRE (11P) ; 16-072-4313	1	A
24	10000-611-038	SWITCH MODE ; 04-MPU10 101MMBO	2	
25	10000-611-039	SWITCH LEAF ; 04-MTS10041MVJ1	6	
26	10000-611-040	HALL IC ; 00-LB9051A	2	
27	10000-611-046	PC BOARD ; 22-070-4046	1	B
28	10000-611-047	HOUSING ; 00-S5BEH	1	B
29	10000-611-054	BELT MAIN ; 02-083-4076	1	B
30	10000-611-055	BELT MAIN ; 02-083-4075	1	A

4. REMOTE CONTROL

- **EXPLODED VIEW**

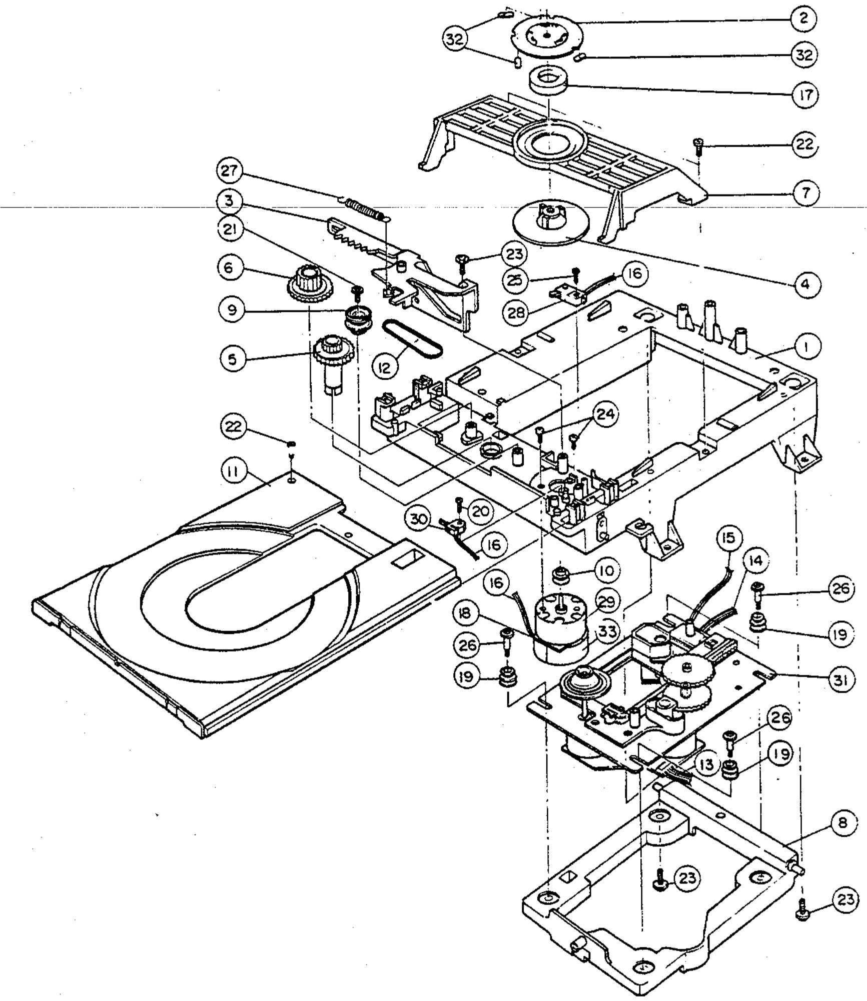


- **REMOTE CONTROL PARTS**

No.	CODE No.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
	14909-503-320	REMOCON ASS'Y ; MQ-460R DOMESTIC	1	ASS'Y
1	13313-0019-00	COVER-HIDDEN ; ABS 94HB T1.5 BLK	1	
2	14073-0046-00	WINDOW-REMOCON ; PC T3.0 BLU MQ460R	1	
3	12002-0051-01	CABINET-TOP ; ABS 94HB T2.0 BLK MQ460R	1	
4	14014-0004-01	INLAY-REMOCON ; PC T0.5 BLK MQ460R	1	
6	14083-0124-01	KNOB REMOCON, B ; SIL/CON RUBBER MQ460R	1	
7	12714-0040-00	SPRING-BATTERY ; SPS 0.3T	2	
8	12002-0052-00	CABINET-BOTTOM ; ABS 94HB T2.0 BLK MQ460	1	
9	13313-0020-00	COVER-BATTERY ; ABS 94HB T2.0 BLK	1	
10	16674-556-310	SPRING-BATTERY ; SUS 304 0.5T	1	

3. CD PLAYER

- **EXPLODED VIEW**



- **MECHANICAL PARTS**

No.	CODE No.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
	*CMS-M1A	DECK-CD ; CMS-M1/A		ASS'Y
1	12201-0013-00	BASE-MAIN ; ABS BLACK	1	
2	13014-0018-00	BRKT-CHUCK ; SECC T0.8	1	
4	16604-544-210	CHUCK ; POM BLACK	1	
7	13329-0013-00	HOLDER-CHUCK ; ABS BLACK	1	
13	13070-046-125	CONNECTOR-WIRE/BN ; 6P	1	
14	13076-048-020	CONNECTOR-WIRE/BN ; 8P	1	
15	13052-902-020	CONNECTOR-WIRE/BN ; 8P SHIELD	1	
16	13029-064-120	CONNECTOR-WIRE ; 6P	1	
17	14014-500-600	MAGNET-CHUCK ; FERRITE 6	1	
18	16024-0083-00	PCB-MOTOR ; FR-1T 1.6W109 L113	1	
19	16174-503-410	RUBBER CD ; SI-RUBBER WHT45	4	
22	17458-130-081	SCREW ; TAP 3 x 8 FE FZY	3	
23	17154-100-640	SCERW TAP FE FZY RH SPEX ; 2S 3 x 8 FE FZB.	3	
24	17008-126-041	SCREW ; M2.6 x 4 FE FZY	2	
26	15104-531-710	SHAFT-CD ; FE FZY 2.6 x 10.5	4	
27	12724-0010-00	SPRING-CAM; STSW P10.23	1	
28	B3022-0004	SWITCH-LEAF ; MLS-1	1	
29	B3070-0002	MOTOR-DC ; RF-500TB-12560	1	
30	13573-901-050	SWITCH-MICRO L ; SPPB-11	1	
31	14929-407-010	DECK-CD ; CMS-V10	1	
32	13054-0026-00	CUSHION-BRKT ; FELT 4.5 x 10	3	
33	13014-0062-00	BRKT-SHIELD ; SI 0.35T	1	

- Parts which are not discribed in the CD PLAYER DECK list art not serviceable.
If you need any other parts except those described, apply CD PLAYER DECK ass'y

■ ELECTRICAL PARTS LIST

1. MAIN SECTION

⚠ indicates parts for circuit safe guarding purpose. Therefore, when replacing, be sure to use specified parts only.

LOCATION No.	CODE No.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
AR42L,42R	11048-477-100	R-METAL OXIDE ; RS1T10-J MINI TYPE	2	
CR23	11048-477-820	R-METAL OXIDE ; RS1T82-J MINI TYPE	1	
AR15,16	11048-477-222	R-METAL OXIDE ; RS1T 2.2K-J MINI TYPE	2	⚠
AR17	11048-477-331	R-METAL OXIDE ; RS1T330-J MINI TYPE	1	⚠
UR21	11048-477-470	R-METAL OXIDE ; RS1T47-J MINI TYPE	1	
AR45	11048-577-101	R-METAL OXIDE ; RS2T100-J MINI TYPE	1	⚠
AR1,21	11048-577-471	R-METAL OXIDE ; RS2T470-J MINI TYPE	2	⚠
AR7	11048-577-680	R-METAL OXIDE ; RS2T68-J MINI TYPE	1	⚠
AR63	11048-677-121	R-METAL OXIDE ; RS3T120-J MINI TYPE	1	⚠
AFR3,4	11058-223-101	R-FUSIBLE ; ORF 1/4W 100J	2	⚠
AFR1,2	11058-477-109	R-FUSIBLE ; RF 1T 1-J	2	⚠
AFR5	11058-377-011	R-FUSIBLE ; RF1/2T1-J	1	⚠
CVR1,2,MVR1	11249-102-024	VR-SEMI TAPE-H ; DVN-DJA A03B53 (5K)	3	
JVR1L, 1R, JVR2L, 2R	11249-102-044	VR-SEMI TAPE-H ; DVN-DJA A03B24(20K)	4	
KVR1R, OVR1, KVR1L	11249-102-064	VR-SEMI TAPE-H ; DVN-DJA A03B24(50K)	3	
AD21	11058--277-109	R-FUSIBLE ; RF 1/4T 1-J	1	⚠
JW241	11058-477-109	R-FUSIBLE ; RF 1T 1-J	1	⚠
LVR1L,1R	11249-102-094	VR-SEMI TAPE-H ; DVN-DJA A03B25 (200K)	2	
AC12	11608-116-332	C-ELECTROLYTIC ; SMS T 42V 3300M (18x35)	2	⚠
AC3,10	11608-105-222	C-ELECTROLYTIC ; SMS 35V 2200M (16x31.5)	2	⚠
AC4	11609-401-740	C-ELECTROLYTIC ; SMS 25V 2200M (16 x35)	1	⚠
OTC3,4	11829-512-030	C-TRIMMER ; TZ03R 20PF	2	
QIC1	12109-310-860	IC-EQ VR ; LC7520	1	
DIC1	12109-323-990	IC-DOLBY ; KA2271	1	
AIC2,3	12109-401-690	IC-REGULATOR ; MC7812CIKIA7812P	2	
EIC1	12119-102-050	IC-EQ ; BA3312V	1	
DIC2	12119-102-330	IC-TR ARRY ; BA6251	1	
FIC1	12119-102-720	IC AM, FM IF ; LA1851N	1	
JIC2	12119-201-610	IC-AMPS ; LA2010	1	
JIC1	12119-201-840	IC-PALY ; LA3246	1	
QIC3	12119-202-880	IC-LINER ; KA22234 (5G/EQ)	1	
AIC1	12119-205-040	IC-POWER. ; STK 4181-V	1	
QIC2	12119-401-760	IC-OP AMP ; NJM2068SD/UPC4570HA	1	
AIC4	12119-601-770	IC-REGULATOR ; MC7805	1	
AQ5,4	12139-103-560	TRANSISTOR ; KSA 614-0	2	
AQ8	12139-201-100	TRANSISTOR ; KSA 928A-Y	1	
AQ6,9	12139-301-310	TRANSISTOR ; KSC 1009-Y	2	
UQ2, KQ6, CA13,14 CQ3	12149-101-560	TRANSISTOR ; KSA 708-Y, TAPE	5	
CQ1,5,7	12149-202-050	TRANSISTOR ; KSB 564A-Y	3	
KQ4L,4R,EQ2	12149-301-820	TRANSISTOR ; KSC 1222-L, TAPE	3	
FQ1	12149-301-860	TRANSISTOR ; KSC 838-0,, TAPE	1	
CQ2	12149-301-900	TRANSISTOR ; KSC 945-Y, TAPE	1	
KQ1L, 1R,KQ2L,2R CQ4,6,8, LQ2,KQ7 5,DQ1L,1R,EQ1, JQ3L,3R,CQ9,11, AQ1L,1R,AQ20, UQ1,AQ7	12149-301-900	TRANSISTOR ; KSC 945-Y, TAPE	2	
UQ3, LQ1	12149-301-910	TRANSISTOR ; KSR 2331-Y, TAPE	2	

LOCATION No.	CODE No.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
KQ3, BQ1, AQ3,KQ10	12159-301-760	TR DIGITAL ; KSR 2004	4	
KQ8,9,JQ21,2R, MQ1,2,JQ4L,4R,JQ1	12159-301-790	TR DIGITAL ; KSR 1009	9	
AD7,8,9	12169-201-080	DIODE-RECTIFIER ; 1N 4001, TAPE	3	⚠
AD2,11,AFR6	12169-201-090	DIODE-RECTIFIER ; 1N 4002, TAPE	3	⚠
AD4,5,AD10,12,18	12169-201-200	DIODE-RECTIFIER ; 1N 5392 PX TAPING TAPE	5	⚠
AD3	12169-219-320	DIODE BRIDGE ; PBP203 2A 200V	1	⚠
AD1	12169-219-330	DIODE-BRIDGE ; PBL403	1	⚠
AD17	12169-403--030	DIODE-ZN ; RD2.7EB/UZ 2.7BM	1	⚠
AD13	12169-403--200	DIODE-ZN ; RD407E/UZ 4.7BM	1	⚠
AD6	12169-403-890	DIODE-ZN ; 1W22.8-25.5V UZP-24B	1	⚠
AD15	12169-403-910	DIODE-ZN ; 1W11.4-12.6V UZP-12B	1	⚠
QD1,CD5,AD19, UD5	12169-404-110	DIODE-ZN ; RD5.6FB/UZP-5.6B	4	
OVD1	12169-501-005	DIODE ; KV 1236	1	
KL1L,1R	12429-010-210	COIL-CHOKE ; RA 5.6MH-K Q80	2	
ALIL,1R	12429-060-031	COIL-CHOKE SPK ; 2R2UH-K F7R9 RD 1/4P 10-j	2	
LL2,CL1	12429-070-130	COIL-CHOKE ; AX 470UH-04	2	
KL2L, 2R	12429-106-302	COIL-TRAP ; L,C PARALLEL 105K 100PF	2	
ML3L,3R	12450-304-040	COIL-LOW PASS FILTER ; FV-A D-BASE 19K/78K 10MM	2	
ML1	12619-020-067	COIL 7 CAN ; AB FM BLU	1	
OL5	12619-030-005	COIL-CAN ; AC 450KHZ YEL	1	
OL4	12619-047-203	COIL-CAN ; AD 110UH 796KHZ RED	1	
OL2	12619-561-000	CIIK-MW ANT ; MURHN-K5268KAI 250MH	1	
LL1	12619-577-771	COIL-BIAS DSC ; PCHNS-5371 EQJ	1	
JL1L,JR	12619-636-471	COIL CAN ; AM2. 2M HF NON	2	
	13052-902-230	C/WIRE B,S ; EHR-O5/TC25-05HG 1533#28/2		
	13303-500-620	TERMINAL-130ARD PUSH, N ; 4P PUSH HOOK	1	
SURROUND	13339-417-030	JACK-RCA ; 2P (S-434)	1	
BJ1	13339-544-020	JACK-AUX ; 4P	1	
UW1	13349-103-053	CONNECTOR-WAFER ; STICK 5267-05A 5P	1	
A DECK	13349-135-110	CONNECTOR-WAFER ; 52004,11P	1	
ONF1,2,3,4,5	13349-171-101	CONNECTOR-WAFER ; 53114-1010, MOLEX	5	
BW1	13349-173-091	CONNECTOR-TRAP ; 2MM 52147-0910 9P	1	
AW1	13349-511-573	CONNECTOR-WAFER ; 5268-02A	1	
CW3,FW1,BIAS1S, SIG/TP, CW4	13349-512-561	CONNECTOR-WAFER ; STICK 5267-02A 2P-TYPE	5	
AW2	13349-512-562	CONNECTOR-WAFER ; STICK 5267-04A 4P-TYPE	1	
AW3	13349-512-569	CONNECTOR-WAFER ; STICK 5267-08A 8P-TYPE	1	
JWA1	13349-527-502	CONNECTOR-WAFER ; STICK 5267-03A 3P	1	
DL1L,1R	14529-414-050	FILTER-LOW PASS ; 10MM 19K/105KHZ	2	
UX1	14534-504-040	CERAMIC-RESONATOR ; CSA4.00MG	1	
OX1	14539-504-100	CERAMIC RESONATOR ; CSB456F15	1	
	16024-0122-00	P.C.B-MAIN ; 1V-0 T1.6 W300 L300 SCM9100		
OCT1	A1243-0049	FILTER-CERAMIC ; BP 450+-1 OK ACFMF-450B	1	
FJ1	A3059-0006	TERMINAL-BOARO, PUSH ; SP-030 4P ANT	1	
UIC1	A4002-0158	IC-MICOM KS56C1660-16	1	
BIC1	A4006-0016	IC-ASIC ; KA22293 QFP 48	1	
CM1	B1050-0013	VR-ROTARY, METAL ; 50KB DBL 12 PV RK16812	1	
KQ6L,6R	B4054-0023	FET ; 2SK373-Y 400MW 6.5MA 100V N-CHANN	2	
B DECK	B6010-0399	CONNECTOR-WAFER ; 52328-1310 13P WHT	1	
ICB,FCT1	14529-301-763	FILTER-CERAMIC ; SFE 10.7MA8H-A-TF21	2	
F1	B1290-0002	TUNER-FM ; FE337-A05 3G 75/3000HM	1	

2. FRONT SECTION

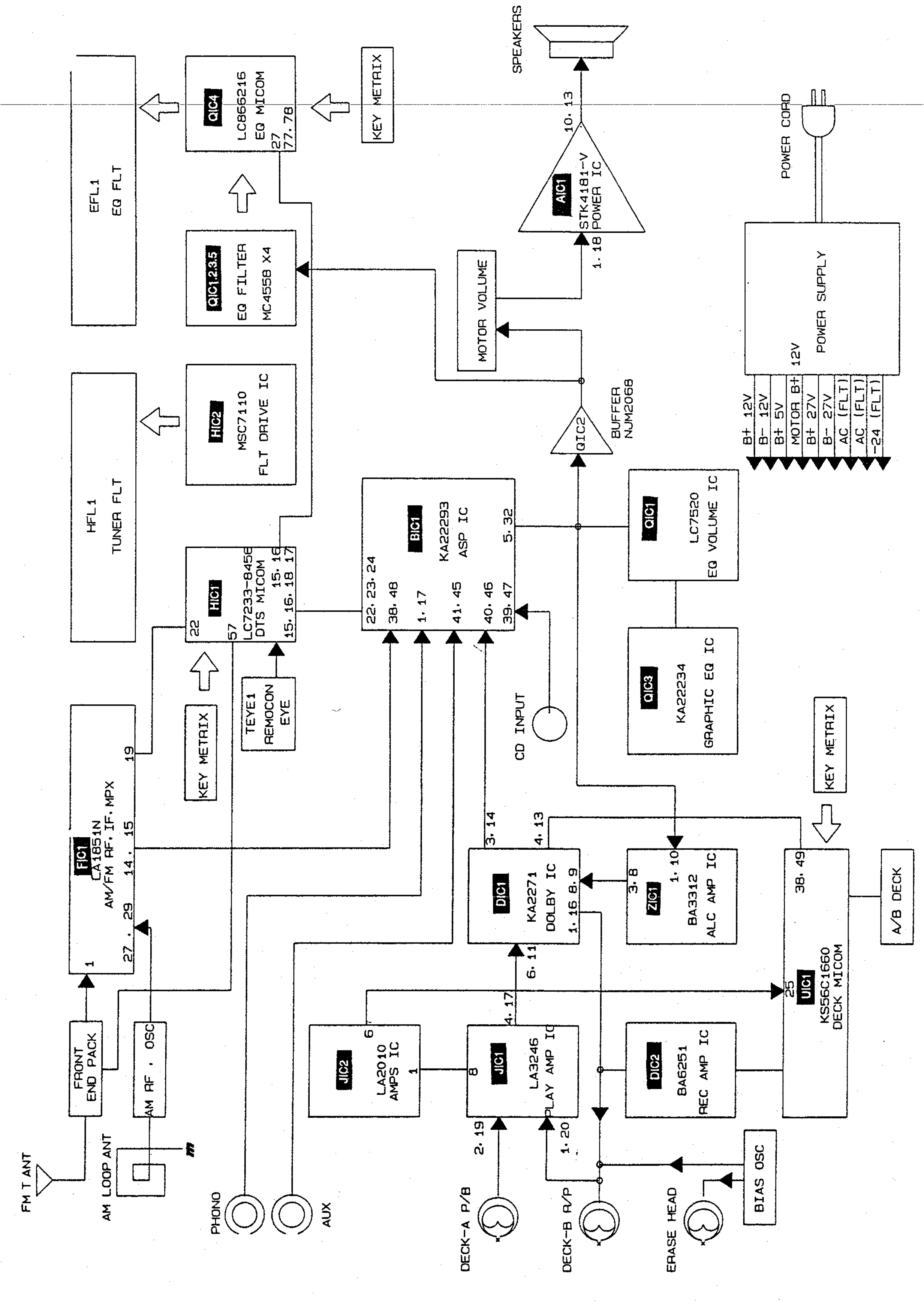
LOCATION No.	CODE No.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
WA2	13039-409-207	MULTI-WIRE ; 9P 2877#26 2M/M 200MM	1	
WA1	13078-475-140	CONNECTOR-WIRE/B,S ; 5264-05/5395-05	1	
WA3	13349-444-030	CONNECTOR-WAFER ; GT-PIN UL94V-1	1	
UTS401~409 T101, 102, UT410~ 413,T103~107 T109~T118	13559-901-100	SWITCH-TACT ; SKHV10910A	30	
	16024-0124-00	P.C.B-SUB ; 1V-0 T1.6 W300 L330 SCM9100	1	
TP1,2	13059-808-291	POWER CORD ASS'Y ; CP2 300V 3A KS W/S	1	
F101	13164-101-913	CLIP-FUSE ; PBP301/2H T0.3 SN	2	
VG1	13599-502-020	VOLT SELECT ; PCB 00120354 220V/110V	1	
F102	14709-241-200	FUSE ; T 250V1A 20 EUR	1	
F101	14709-241-250	FUSE ; T 250V 2A 20 EUR	1	
QIC1,2,3,5	12119-401-170	IC-OP AMP ; MC 4558C	4	
HQ8	12139-601-450	TRANSISTOR ; 2SK583 TAPE	1	
HQ6,3	12149-101-520	TRANSISTOR ; KSA733-Y, TAPE	2	
HQ9,4,5,2	12159-301-760	TR DIGITAL ; KSR2004	4	
HQ11	12159-301-790	TR DIGITAL ; KSR1009	1	
HQ10,7,1	12159-301-800	TR-DIGITAL ; R1007/108M/124xS	3	
TEYE1	12199-101-080	REMOCON EYE ; MM-001A (CD22R MESH)	1	
HL1	12429-211-470	COIL-CHOKE AXIAL LEAD ; RES-1 Q40 LALO2	1	
CF7	13039-408-507	MULTI-WIRE ; 8P 2877#26 2M/M 500MM	1	
CF5	13039-409-257	MULTI-WIRE ; 9P 2877#26 2M/M 250MM	1	
CF6	13039-411-507	MULTI-WIRE ; 11P 2877#26 2M/M 500MM	1	
CIF1	13099-500-530	CABLE IF ; 5264-02/JC25-02 1365-30 400M	1	
MIC,H/PHONE	13339-120-020	JACK HEAD PHONE ; LGT1506-0100 PI3.5	2	
CF1, 2,3,4,5	13349-170-101	CONNECTOR-WAFER ; 52170-1010 MOLEX	5	
CF7	13349-240-081	CONNECTOR-JUMP ; 2MM 51048-0800 8P	1	
CF5	13349-240-091	CONNECTOR-JUMP ; 2MM 51048-0900 9P	1	
CF6	13349-240-111	CONNECTOR-JUMP ; 2MM 51048-1100 11P	1	
SBS, SURROUND	13529-203-930	SW-PUSH ; SPEA122S CO11	2	
QX1	14534-504-040	CERAMIC-RESONATOR ; CSA4.OOMG	1	
HX1	14530-003-010	CRYSTAL-UNIT ; HC18-U4.5MHZ	1	
	16024-0123-00	P.C.B-FRONT ; 1HB T1.6 W247 L330 SCM9100	1	
HFL1	A4153-0029	V.F. DISPLAY ; SVA-13BS05 SCM9100 TUNER	1	
EFL1	A4153-0035	V.F. DISPLAY ; SVA-9ME04 SCM9100 EQ	1	
HC3	B1104-0170	C-ELEC ; AC310-502G473Z5R5 CA 92 W5.5V	1	
QIC4	B4002-0077	IC-MCU ; LC866216A-5231 AUDIO EQ QFP	1	
HIC1	B4002-0078	IC-MCU ; LC7233-8456 AUDIO QFP	1	
HIC2	B4008-0888	IC-DRIVE ; MSC 7110-O1SS DIP F.L.T	1	
QVR4	11209-106-800	VR-ROTARY ; RK16K 113-A01 13B	1	
KF1-KF2	13078-993-770	CONNECTOE-WIRE/B,S ; 5395-03/5395-03 25	1	

3. CD PLAYER SECTION

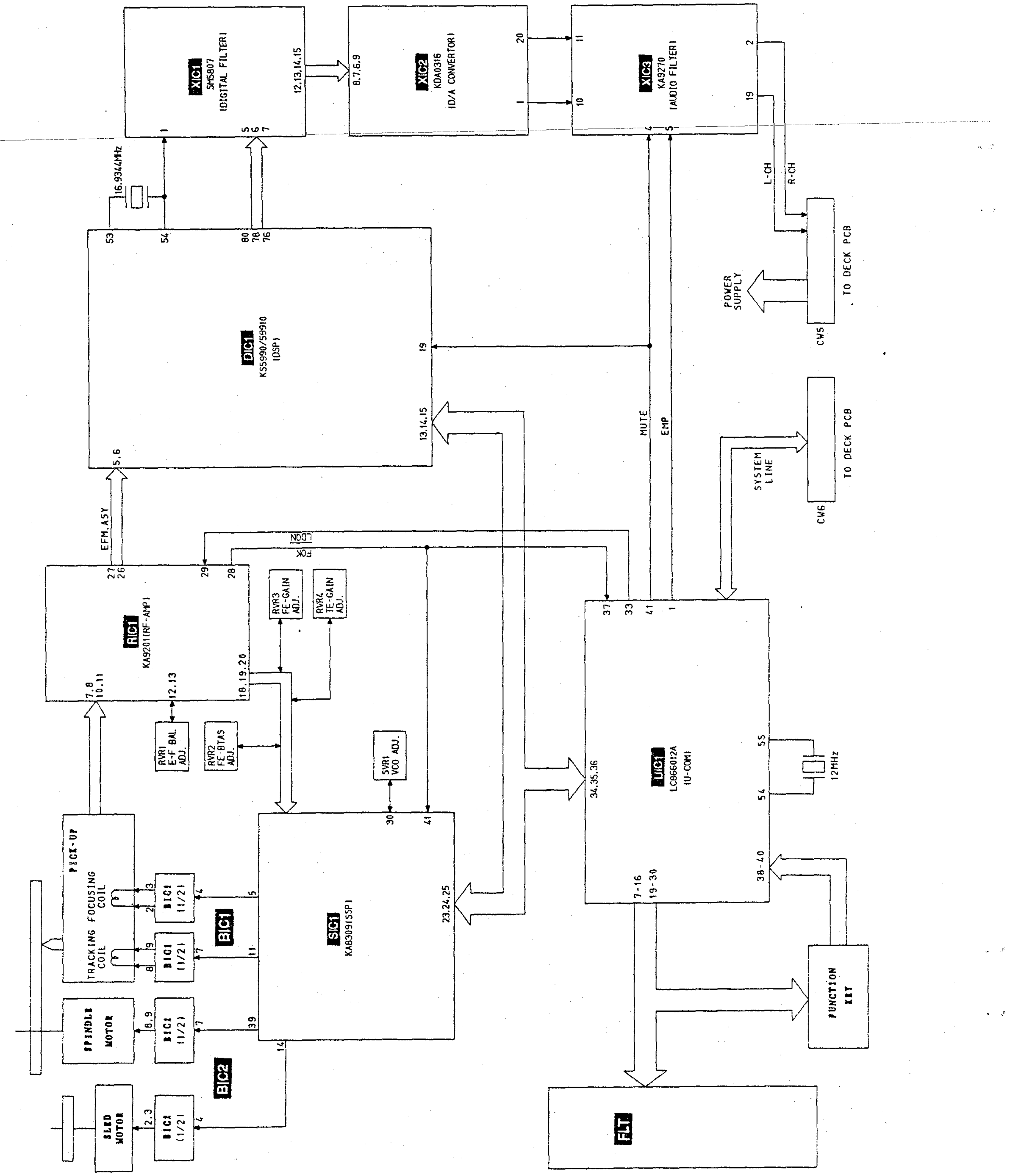
LOCATION No.	CODE No.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
CW10	13072-026-115	CONNECTOR-WIRE/B,S ; 51004-06/5295-06	1	
CW13	13078-462-120	CONNECTOR-WIRE/B,S ; 5264-02/5395-02	1	
SVR1	11249-002-050	VR-SEMI, FIXED ; VZ066L, 2KB, HDK	1	
RVR1,2,3,4,	11249-102-044	VR-SEMI, TAPE-H ; DVN-DJA A03B24 (20K)	4	
AC1	11607-104-222	C-ELECTROLYTIC ; MC SMS 25V 2200M (16x25)	1	⚠
XIC1	12109-303-250	IC DIGITAL FILTER ; SCM5807 EP	1	
XIC2	12109-401-310	IC-D/A CONVERTER ; KDA0316LN	1	
AIC2	12109-401-730	IC-REGULATORS ; MC7808BF, 85W	1	⚠
XIC4	12119-101-190	IC-REGULATOR ; MC78LO6A/NJM78LO6A	1	⚠
SIC1	12119-203-780	IC-SSPROCESSOR ; KA8309/KA8309B	1	
RIC1	12119-203-790	IC-RF AMP ; KA9201	1	
AIC1	12119-601-770	IC-REGULATOR ; MC7805	1	⚠
UQ2,9	12149-101-520	TRANSISTOR ; KSA733-Y, TAPE	2	
UQ6,7	12149-101-590	TRANSISTOR ; KSA931-Y, TAPE	2	
RQ1	12149-202-050	TRANSISTOR ; KSB564A-Y	1	
UQ4,5,8	12149-301-900	TRANSISTOR ; KSC 945-Y, TAPE	3	
UQ3	12149-301-910	TRANSISTOR ; KSC 2331-Y, TAPE	1	
UQ1,DQ1,SQ2, RQ2	12159-301-780	TR DIGITAL ; KSR 1003	4	
SQ1, UQ10	12159-301-800	TR-DIGITAL ; R1007 108M/124x5	1	
UL1	12429-511-221	COIL ; CHOKE ; AX220UH-03 (BAL03ST221K)	1	
CW11	13349-119-020	CONNECTOR-WAFER ; 53014-0210, MOLEX	1	
CN9	13349-119-050	CONNECTOR-WAFER ; 53014-0510, 2M/M MOLEX	2	
CW3,4	13349-119-060	CONNECTOR-WAFER ; 53014-0610, 2M/M MOLEX	2	
CW1,2	13349-119-080	CONNECTOR-WAFER ; 53014-0810, MOLEX	1	
CW5	13349-173-081	CONNECTOR-TRAP ; 2MM 52147-0810 8P	1	
CW8	13349-173-091	CONNECTOR-TRAP ; 2MM 52147-0910 9P	1	
CW6	13349-173-111	CONNECTOR-TRAP ; 2MM 52147-1110 11P	1	
DX1	14539-503-083	CERAMIC-RESONATOR ; CSA 16.93Mx040-TF01	1	
UX1	14539-530-130	CERAMIC-RESONATOR ; CSA 12. OMT	1	
PWB	16024-0093-00	P.C.B-MAIN ; 1V-0 T1.6 W163 L197 MM360Z	1	
XIC3	A4012-0064	IC-LINEAR ; KA9270 DIP CD AUDIO	1	
DIC1	A4012-0111	IC-LINEAR ; KS5990/59910-YC QFP CD-DSP	1	
FLT1	A4153-0022	V.F-DISPLAY ; 10BT-100GK CD-PACK	1	
UIC1	B4002-0040	IC-CPU ; LC866012A-5260 AUDIO QFP	1	OPTIONAL
	B4002-0223	IC-CPU : LC866012A-5345 AUDIO QFP	1	OPTIONAL
BIC1,2	B4012-0016	IC-LINEAR ; BA6294 SIP CD-BTL DRIVER	2	

BLOCK DIAGRAM

1. MAIN

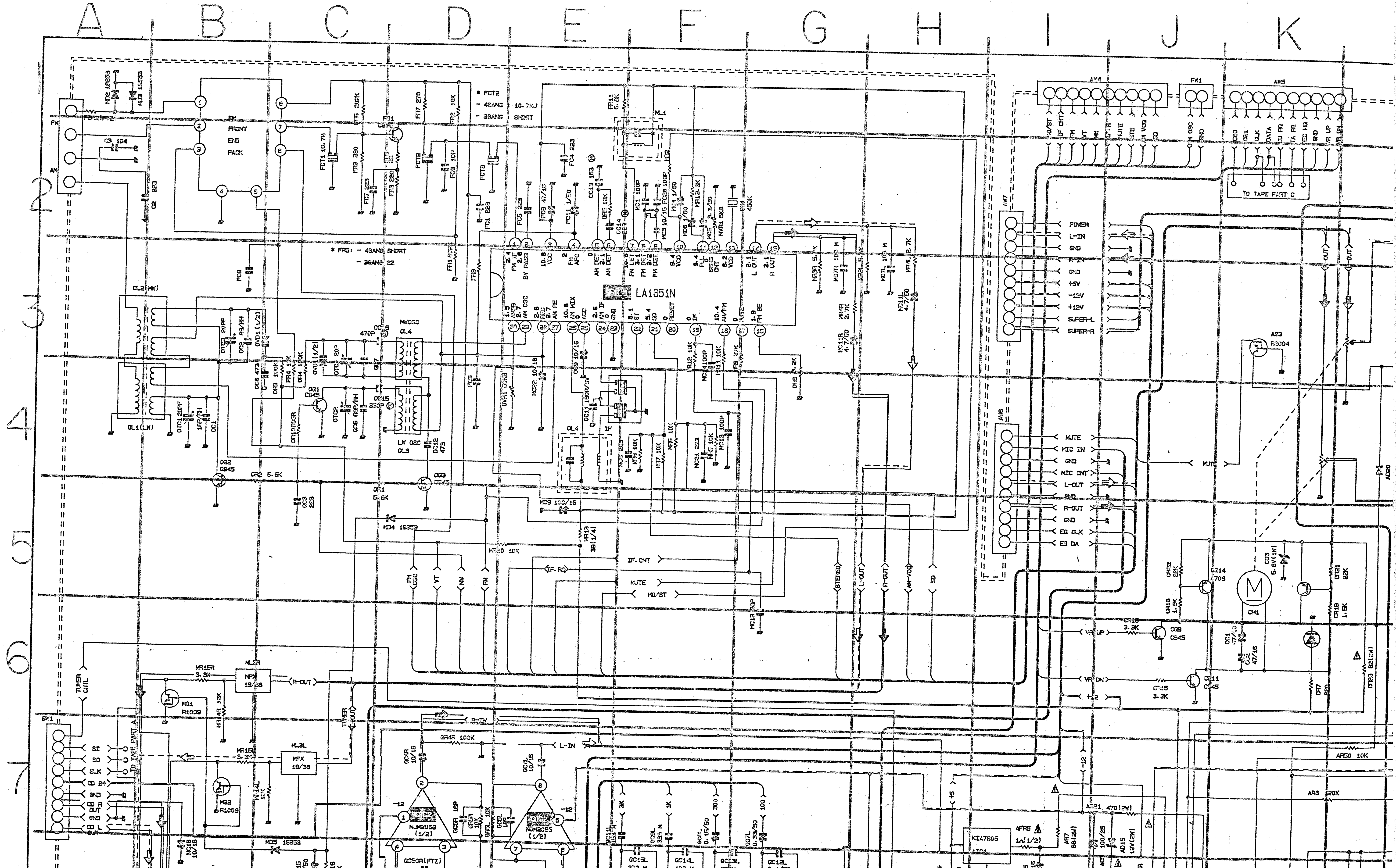

EFL1
EQ FLT
QIC4
LC866216
EQ MICOM
27
77. 78
KEY METRIX
SPEAKERS
10. 13
AIC1
STK4181-V
POWER IC
1. 18
POWER CORD
POWER SUPPLY
12V
B+ 12V
B- 12V
B+ 5V
MOTOR B+
B+ 27V
B- 27V
AC (FLT)
AC (FLT)
-24 (FLT)
QIC1.2.3.5
EQ FILTER
MC4558 X4
MOTOR VOLUME
BUFFER
NJM2068
QIC2
HIC2
MSC7110
FLT DRIVE IC
HFL1
TUNER FLT
BIC1
KA22293
ASP IC
22. 23. 24
38. 48
1. 17
41. 45
40. 46
39. 47
5. 32
QIC1
LC7520
EQ VOLUME IC
HIC1
LC7233-8456
DTS MICOM
22
57
15. 16
17
15. 16. 18
KEY METRIX
TEYE1
REMOCON
EYE
CD INPUT
QIC3
KA22234
GRAPHIC EQ IC
KEY METRIX
FIC1
LA1851N
AM/FM RF. IF. MPX
1
27 . 29
14 . 15
19
3. 14
4. 13
DIC1
KA2271
DOLBY IC
1. 16 8. 9
6. 11
ZIC1
BA3312
ALC AMP IC
3. 8
1. 10
UIC1
KS56C1660
DECK MICOM
38. 49
25
A/B DECK
FRONT
END PACK
AM RF . OSC
JIC2
LA2010
AMPS IC
6
1
JIC1
LA3246
PLAY AMP IC
4. 17
8
DIC2
BA6251
REC AMP IC
2. 19
1. 20
BIAS OSC
FM T ANT
AM LOOP ANT
PHONO
AUX
DECK-A P/B
DECK-B R/P
ERASE HEAD

2. CD PLAYER SECTION


XIC1
SM5807
(DIGITAL FILTER)
XIC2
KDA0316
(D/A CONVERTOR)
XIC3
KA9270
(AUDIO FILTER)
DIC1
KS5990/59910
(DSP)
RIC1
KA9201(RF-AMP)
SIC1
KA8309(SSP)
UIC1
LC866012A
(U-COM)
BIC1
BIC2
BIC1 (1/2)
BIC2 (1/2)
FLT
PICK-UP
FOCUSING COIL
TRACKING COIL
SPINDLE MOTOR
SLED MOTOR
FUNCTION KEY
16.9344MHz
12MHz
EFM.ASY
FOK
LDON
MUTE
EMP
L-CH
R-CH
CW5
TO DECK PCB
POWER SUPPLY
CW6
TO DECK PCB
SYSTEM LINE
RVR1 E-F BAL ADJ.
RVR2 FE-BIAS ADJ.
RVR3 FE-GAIN ADJ.
RVR4 TE-GAIN ADJ.
SVR1 VCO ADJ.
12,13,14,15
8,7,6,9
20
1
11
10
2
19
4
5
5 6 7
53
54
80 78 76
19
13,14,15
5,6
27 26
29
28
7,8 10,11
12,13
18,19,20
30
41
23,24,25
14
39
11
5
37
33
41
1
34,35,36
55
54
38-40
7-16 19-30
3
2
4
19
8
7
8,9
2,3

SCHEMATIC DIAGRAM

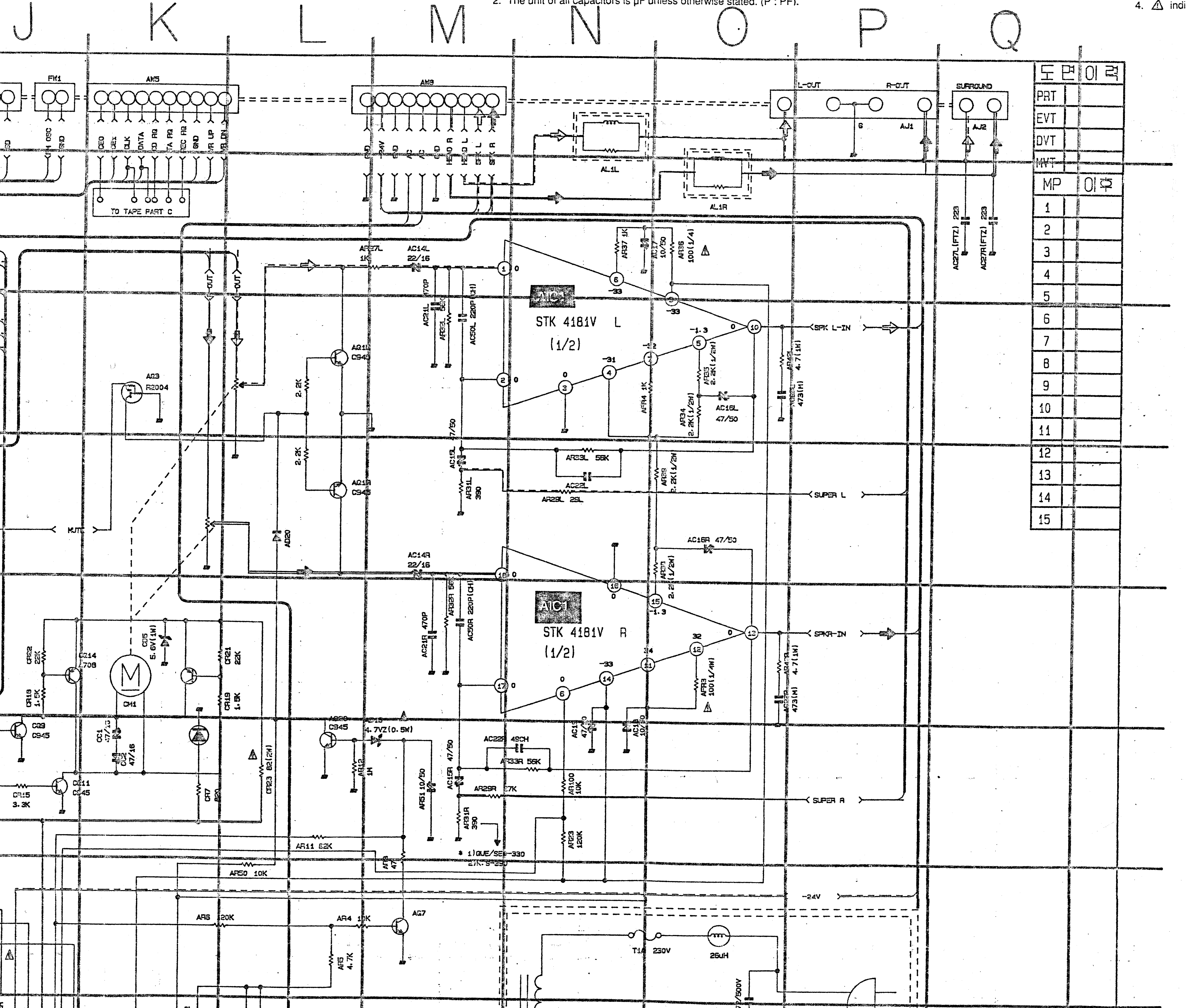
1.MAIN SECTION



A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
FM
AM
FM FRONT END PACK
FIC1
LA1851N
FM IF
BY PASS
VCC
FM AFC
AM DET
AM DET
FM DET
FM DET
FM DET
VCO
PLL DET
SEPA CNT
VCO
L OUT
R OUT
AM RF
AM OSC
REG
AM MIX
AGC
AM IF
GND
ST
SD
RESET
IF
AM/FM
MUTE
FM SE
* FCT2
- 4GANG 10.7MJ
- 3GANG SHORT
* FR5: - 4GANG SHORT
- 3GANG 22
OL2(MW)
OL1(LW)
MWOSC
OL4
LW OSC
OL3
OQ1
C945
OQ2
C945
OQ3
C945
OD4 1SS53
MD2 1SS53
MD3 1SS53
MD4 1SS53
MD5 1SS53
ML1
FQ1
C945
AW4
FW1
AW5
AW7
AW6
POWER
L-IN
GND
R-IN
GND
+5V
-12V
+12V
SUPER-L
SUPER-R
MUTE
MIC IN
GND
MIC CNT
L-OUT
GND
R-OUT
GND
EQ CLK
EQ DA
MO/ST
IF CNT
FM
VT
MW
MUTE
STE
AM VCO
SD
FM OSC
GND
CEO
CE
CLK
DATA
RD RQ
TA RQ
CC RQ
GND
VR UP
VR DN
TO TAPE PART C
IF. CNT
IF. RQ
MUTE
MO/ST
STEREO
L-OUT
R-OUT
AM-VCO
SD
FM OSC
VT
MW
FM
MR20 10K
MR13 39(1/4)
MC9 100/16
AQ3
R2004
CM1
CQ14
A708
CQ9
C945
CQ11
C945
CD5
5.6V(1W)
CR18
3.3K
CR15
3.3K
VR UP
VR DN
+12
TUNER CNT/L
MR15R
3.3K
MQ1
R1009
MQ2
R1009
ML3R
MPX 19/38
ML3L
MPX 19/38
R-OUT
SW1
SI
SO
SLK
B+
R OUT
L OUT
TO TAPE PART A
TUNER OUT
R-IN
L-IN
GR4R 100K
GIC2
NJM2068
(1/2)
GC50R(FTZ)
KIA7805
ATC4
AFR5
AR21 470(2W)
AR50 10K
AR6 120K
ADI5
12V(1W)
CR23 82(2W)

1. The unit of all resistors is Ω unless otherwise stated. (K : KΩ , M : MΩ). All resistors are 1/4W or 1/8W unless otherwise stated.
2. The unit of all capacitors is µF unless otherwise stated. (P : PF).

3. The schematic diagram is subject to change upon improvement without prior notice.
4. ⚠ indicates parts for circuit safe guarding purposes. Therefore, when replacing be sure to use specified parts only.


J
K
L
M
N
O
P
Q
FM1
AM5
AM9
TO TAPE PART C
L-OUT
R-OUT
SURROUND
AJ1
AJ2
AL1L
AL1R
AC27L(FTZ) 223
AC27R(FTZ) 223
AR27L 1K
AC14L 22/16
AC21L 470P
AR23L 56K
AC50L 220P(CH)
AR37 1K
AC17 10/50
AR36 100(1/4)
AIC1
STK 4181V L
(1/2)
STK 4181V R
(1/2)
SPK L-IN
SPKR-IN
SUPER L
SUPER R
AQ11 C945
AQ1R C945
AQ3 R2004
AR34 2.2K(1/2W)
AR33 2.2K(1/2W)
AC16L 47/50
AR4 1K
AR42L 4.7(1W)
AC15L 47/50
AR31L 390
AR33L 56K
AC22L
AR29L 2.7K
AR39 2.2K(1/2W)
AC16R 47/50
AC14R 22/16
AC21R 470P
AR32R 56K
AC50R 220P(CH)
AR38 100(1/4W)
AR42R 4.7(1W)
AQ20 C945
AZ13 4.7VZ(0.5W)
AC22R 49CH
AR33R 56K
AR29R 2.7K
AC15R 47/50
AR31R 390
AR51 10/50
AR100 10K
AR23 120K
AR11 82K
AR50 10K
AR5 120K
AR4 10K
AR3 4.7K
AG7
AD20
MUTE
CR22 22K
CR18 1.5K
CQ14 C1708
CQ3 C945
CQ11 C945
CR15 3.3K
CH1
CD5 5.6V(1W)
CR21 82K
CR19 1.5K
CR7 820
CR23 82(2W)
CC1 47/16
CC2 47/16
* 1)QUE/SEE-330
-24V
T1A 230V
26uH
/500V

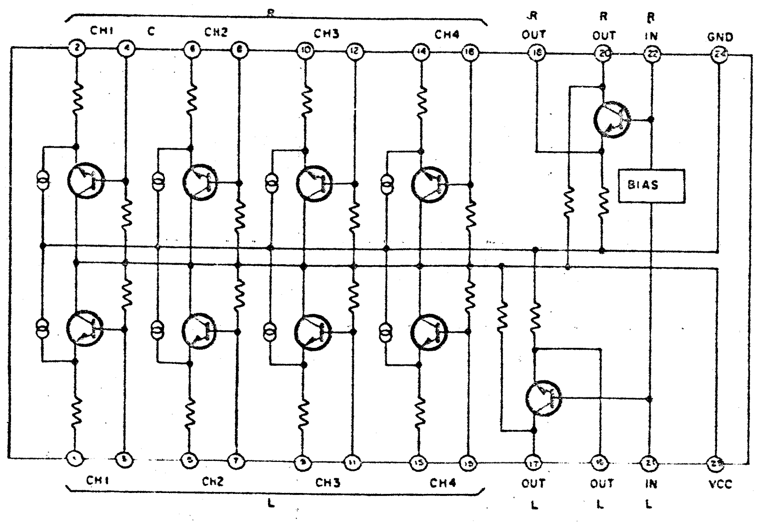
도면		이력
PRT		
EVT		
DVT		
MVT		
MP		이후
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

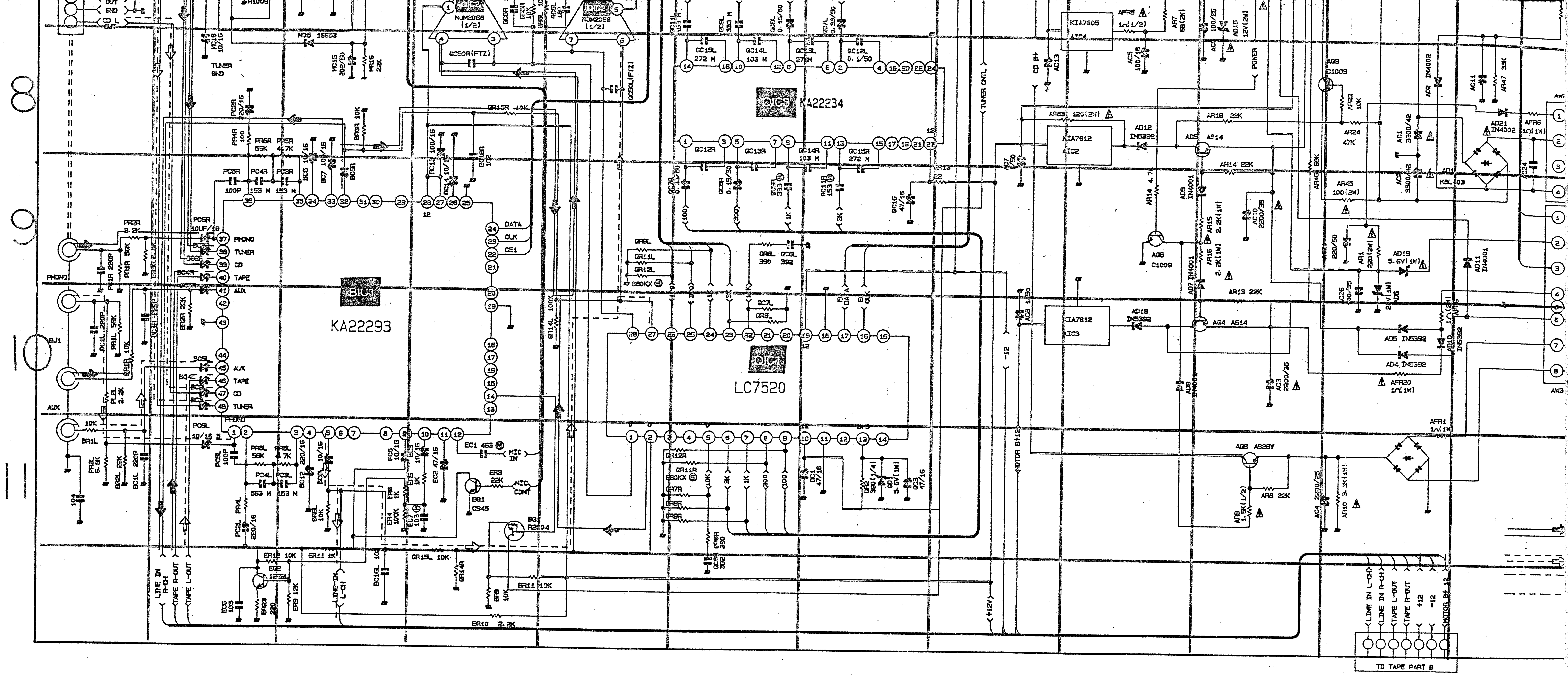
1.MAIN

● IC	LOCATION
F3	FIC1(LA185IN)
N3,N5	AIC1(STK4181V)
E7	QIC2(NJM2068)
G8	QIC3(ICA22234)
F10	QIC1(LC7520)
C10	BIC1(IC22293)

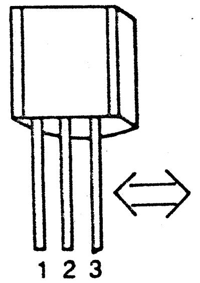
● TR	LOCATION
J8,J10	HQ5,4
J11	AQ8
I9,K8	AQ6,91
D1	FQ1
D11,K3	BQ1,AQ3
B6,B7	MQ1,2
M3,M4,M6	AQ1L,1R,AQ20
B12	EQ2

● KA22234(GRAPHIC EQ IC) : QIC3


CH1
C
CH2
CH3
CH4
R
OUT
IN
GND
BIAS
L
VCC

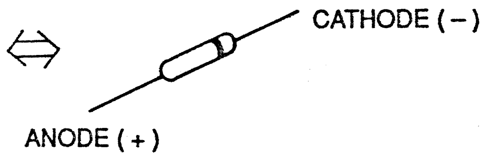

8
9
10
11
BIC1
KA22293
QIC1
LC7520
QIC3 KA22234
QIC2 NJM2068 (1/2)
KIA7805
AIC4
KIA7812
AIC2
AIC3
PHONO
TUNER
CD
TAPE
AUX
BJ1
DATA
CLK
CE1
MIC IN
MIC CONT
TUNER CNTL
CD B+
POWER
MOTOR B+12
+12V
-12
LINE IN R-CH
TAPE R-OUT
TAPE L-OUT
LINE-IN L-CH
LINE IN L-CH
LINE IN R-CH
TAPE L-OUT
TAPE R-OUT
+12
-12
MOTOR B+ 12
TO TAPE PART B

● TR

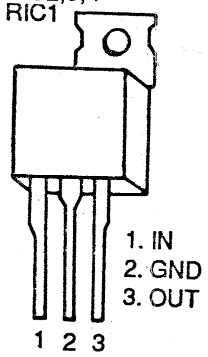


TR	1	2	3
KSR2458,KSR1003 KSR2004,KSR1002	E	C	B
KSC945,KSC1008 KSA733,KSA708, KSC838	E	B	C

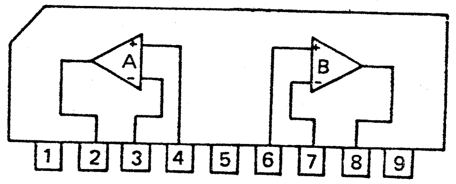
● DIODE 1N4148M/1SS53, 1N4001
ZENER DIODE


CATHODE (–)
ANODE (+)

● MC7805,7812
(REGULATOR IC)
AIC2,3,4
RIC1

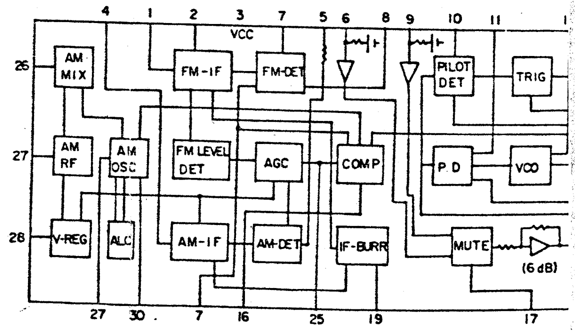

1. IN
2. GND
3. OUT
1 2 3

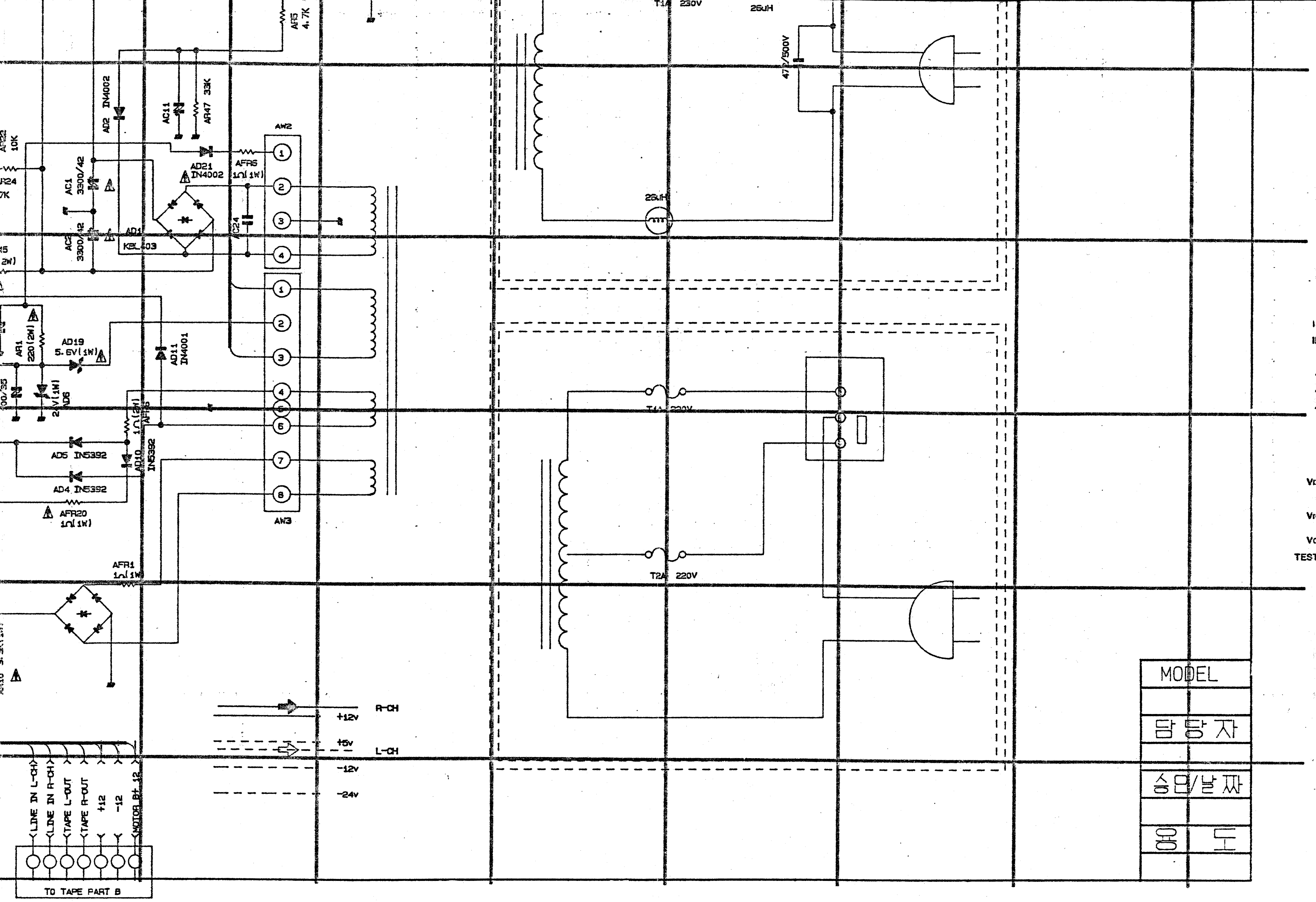
● NJM2068SD/UPC4570HA(OP AMP) : QIC2


A
B
1
2
3
4
5
6
7
8
9

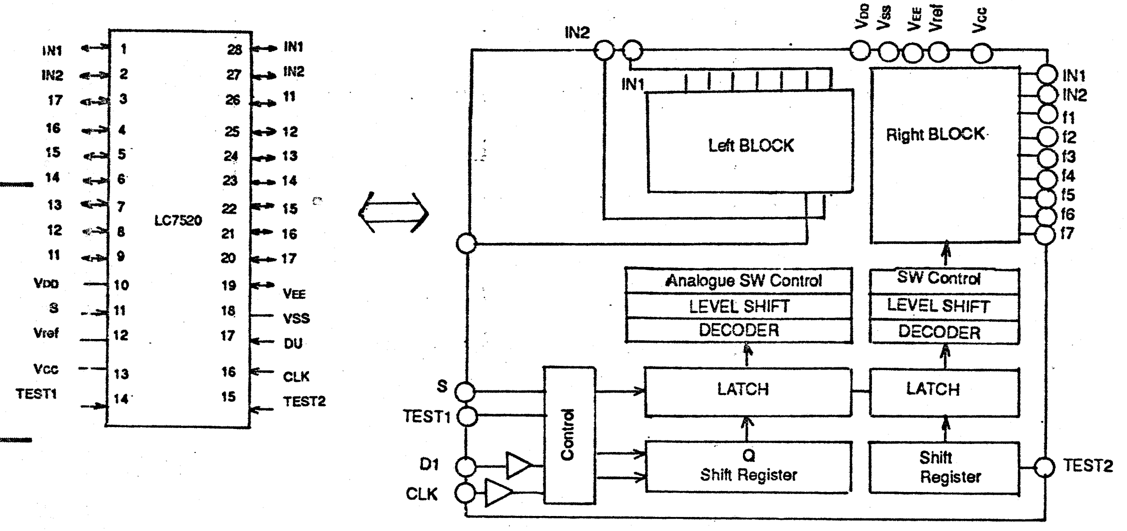
1.V+
2.A OUTPUT
3.A-INPUT
4.A+INPUT
5.V-
6.B+INPUT
7.B-INPUT
8.B OUTPUT
9.V-

● LA1851N(FM, AM, IF IC) : FIC1

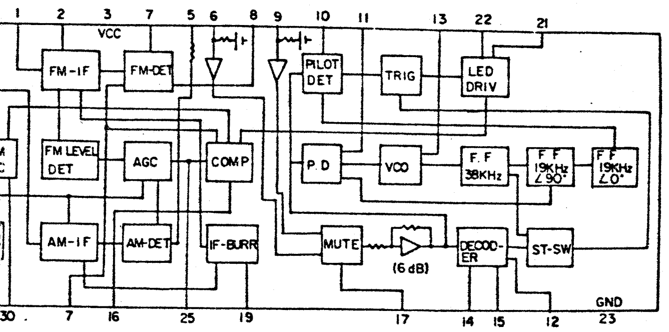

4 1 2 3 7 5 6 8 9 10 11
VCC
26
AM MIX
FM-IF
FM-DET
PILOT DET
TRIG
27
AM RF
AM OSC
FM LEVEL DET
AGC
COMP
P D
VCO
28
V-REG
ALC
AM-IF
AM-DET
IF-BURR
MUTE
(6dB)
27 30 7 16 25 19 17


AR3 4.7K
AD2 IN4002
AC11
AR47 33K
AR22 10K
AR24
AC1 3300/42
AC2 3300/42
AD1 KBL403
AD21 IN4002
AFR5 1Ω(1W)
AC24
AW2
AW3
AR1 220(2W)
AD19 5.6V(1W)
AD11 IN4001
AD5 IN5392
AD4 IN5392
AD10 IN5392
AFR20 1Ω(1W)
AFR1 1Ω(1W)
T1A 230V
T2A 220V
25uH
47/500V
R-CH
L-CH
+12V
+5V
-12V
-24V
LINE IN L-CH
LINE IN R-CH
TAPE L-OUT
TAPE R-OUT
+12
-12
MOTOR B+ 12
TO TAPE PART B
MODEL
담당자
승인/날짜
도면

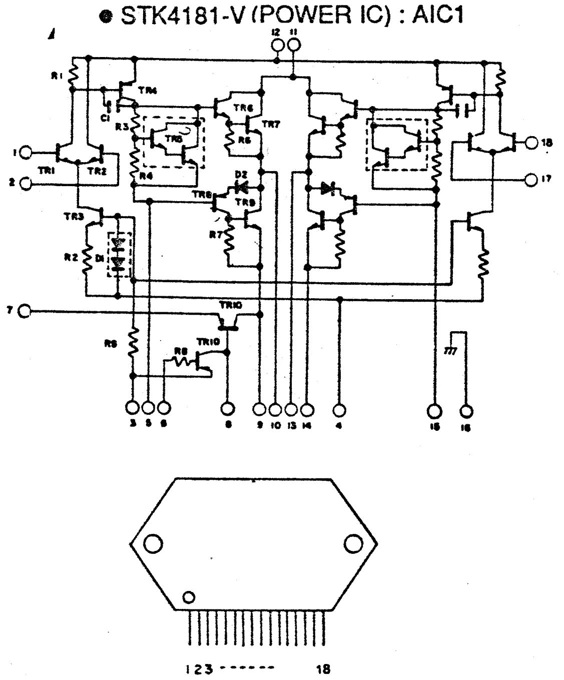
● LC7520(EQ VR IC) : QIC1


IN1
IN2
LC7520
VDD
S
Vref
VCC
TEST1
VEE
VSS
DU
CLK
TEST2
Left BLOCK
Right BLOCK
Analogue SW Control
LEVEL SHIFT
DECODER
SW Control
LATCH
Control
Q Shift Register
Shift Register
D1
f1
f2
f3
f4
f5
f6
f7
Vref

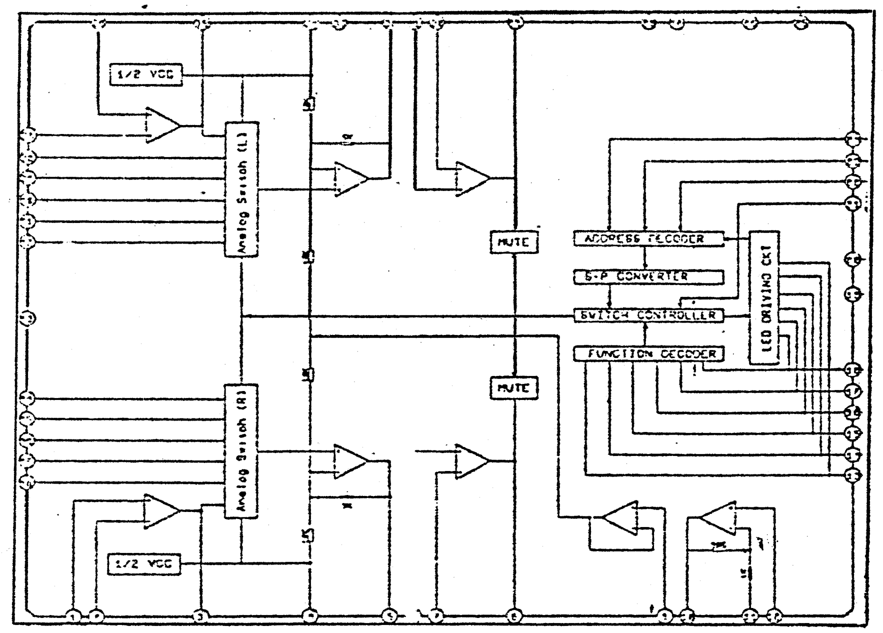
(FM, AM, IF IC) : FIC1


VCC
FM-IF
FM-DET
PILOT DET
TRIG
LED DRIV
FM LEVEL DET
AGC
COMP
P D
VCO
F.F 38KHz
F.F 19KHz ∠90°
F.F 19KHz ∠0°
AM-IF
AM-DET
IF-BURR
MUTE
(6dB)
DECOD-ER
ST-SW
GND

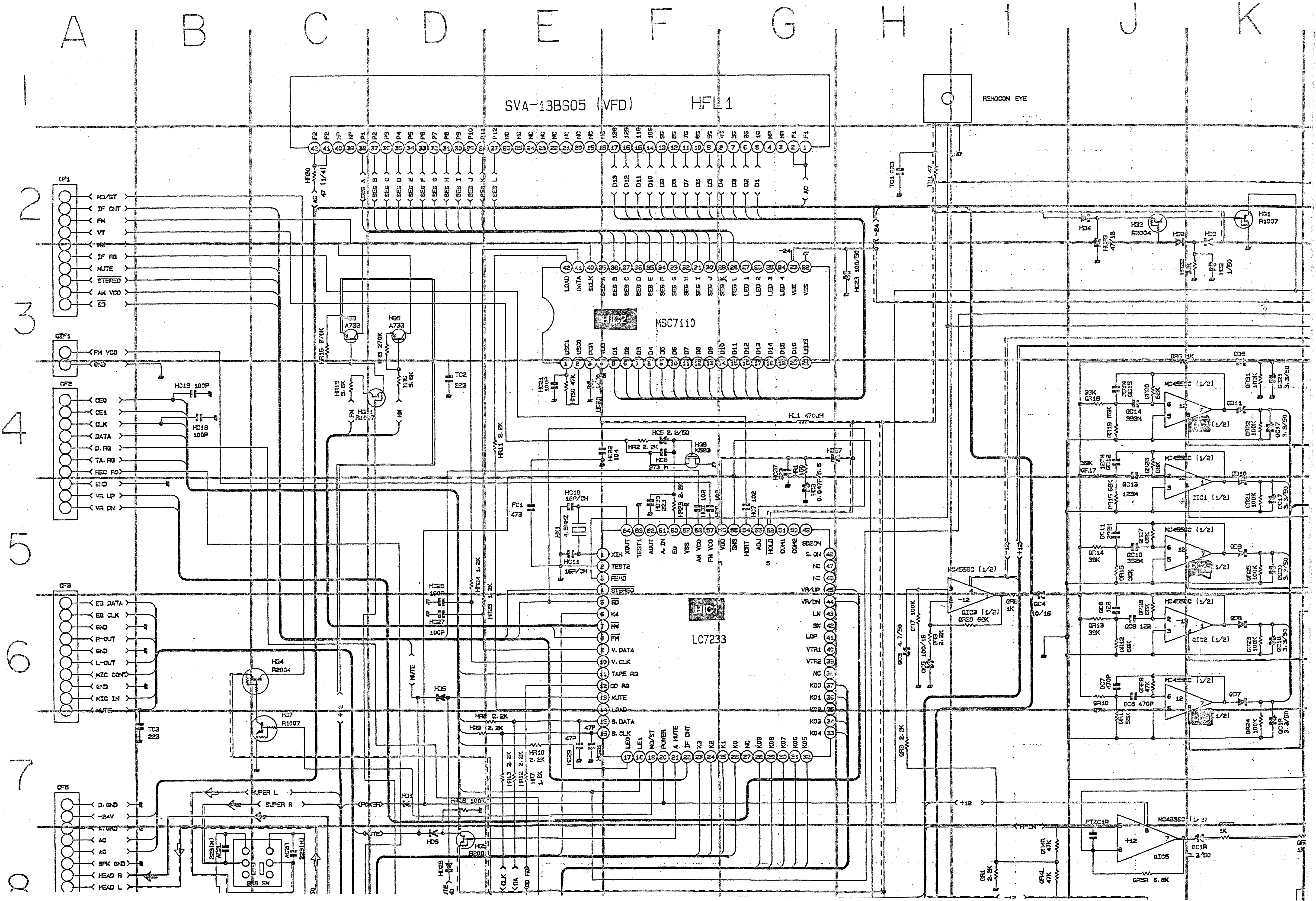
● STK4181-V (POWER IC) : AIC1


TR1
TR2
TR3
TR4
TR5
TR6
TR7
TR8
TR9
TR10
D1
D2
R1
R2
R3
R4
R5
R6
R7
R8
R9
C1
1 2 3 ------ 18

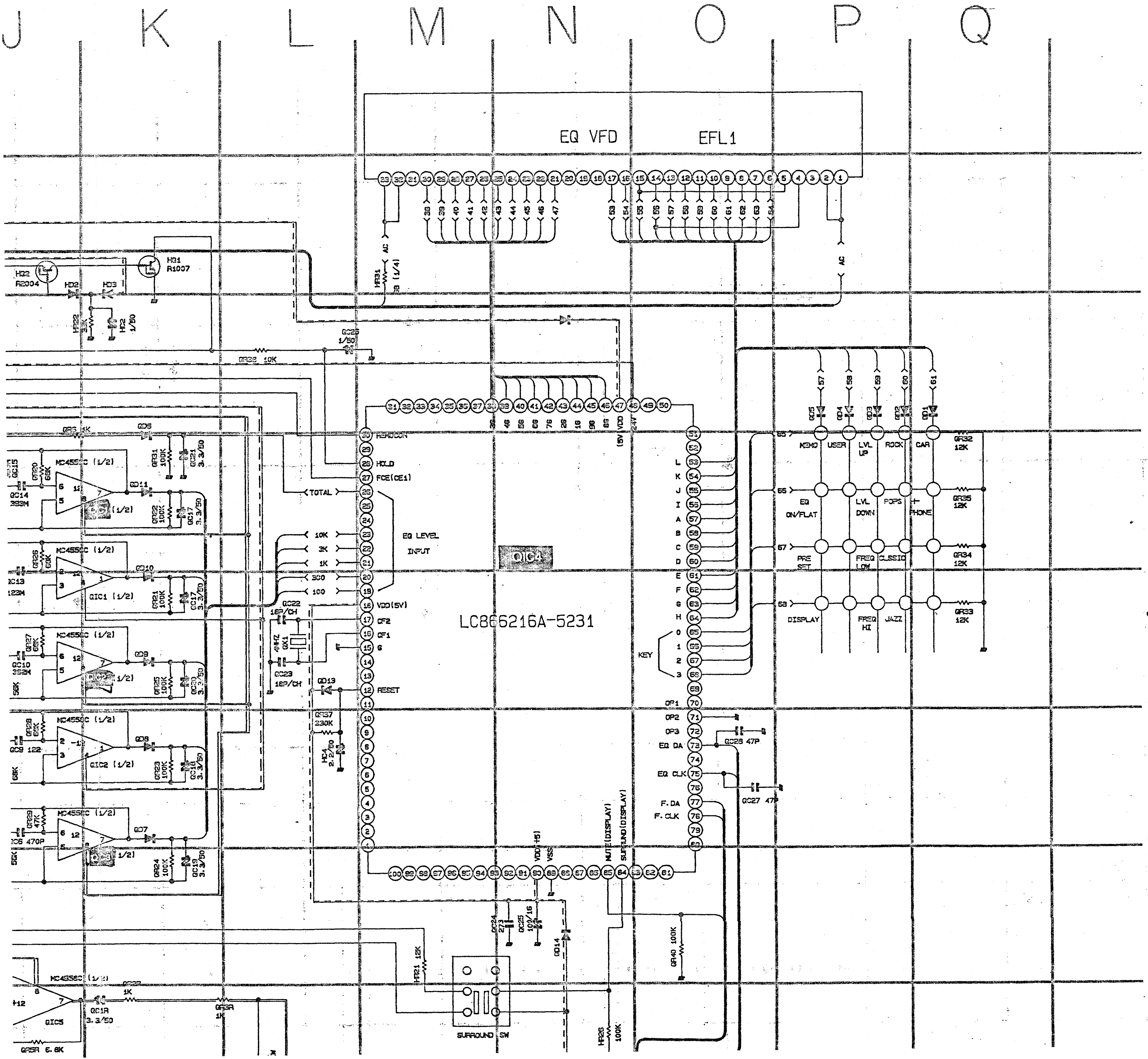
● KA22293: BIC1


1/2 VCC
Analog Switch (L)
Analog Switch (R)
MUTE
ADDRESS DECODER
S-P CONVERTER
SWITCH CONTROLLER
FUNCTION DECODER
LED DRIVING CKT

2.FRONT SECTION



A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
SVA-13BS05 (VFD)
HFL1
REMOCON EYE
HIC2
MSC7110
HIC1
LC7233
CF1
CIF1
CF2
CF3
CF5
MO/ST
IF CNT
FM
VT
IF RQ
MUTE
STEREO
AM VCO
SD
FM VCO
GND
CE0
CE1
CLK
DATA
D. RQ
TA. RQ
REC RQ
VR UP
VR DN
EQ DATA
EQ CLK
R-OUT
L-OUT
MIC CONT
MIC IN
D. GND
-24V
AC
SPK GND
HEAD R
HEAD L
SUPER L
SUPER R
POWER
SRS SW
HQ1 R1007
HQ2 R2004
HQ3 R1007
HQ4 R2004
HQ5 B200
HQ6 K583
HQ7 R1007
HQ8 A733
HQ9 A733
HX1 4.5MHZ
HL1 470uH
MC4558C (1/2)
GIC1 (1/2)
GIC2 (1/2)
GIC3 (1/2)
GIC5
FC1 473
TC2 223
TC3 223
TC1 223
HC19 100P
HC18 100P
HC10 16P/CH
HC11 16P/CH
HC28 100P
HC27 100P
HC5 2.2/50
HC6 273 M
HR2 2.2K
HR8 2.2K
HR9 2.2K
HR18 100K
HD1
HD5
HD6
HD28
+12
-12
-24
R-IN

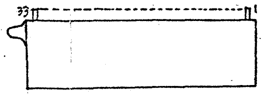

J
K
L
M
N
O
P
Q
EQ VFD
EFL1
HQ2
R2004
HD2
HD3
HQ1
R1007
HR22
HC2 1/50
HR31
QC26 1/50
QR32 10K
QC5
QD4
QD3
QD2
QD1
QR32 12K
QR35 12K
QR34 12K
QR33 12K
MEMO
USER
LVL UP
ROCK
CAR
EQ ON/FLAT
LVL DOWN
POPS
PHONE
PRE SET
FREQ LOW
CLASSIC
DISPLAY
FREQ HI
JAZZ
REMOCON
HOLD
FCE(CE1)
TOTAL
10K
3K
1K
300
100
EQ LEVEL INPUT
VDD(5V)
CF2
CF1
G
RESET
QIC4
LC866216A-5231
KEY
OP1
OP2
OP3
EQ DA
EQ CLK
F.DA
F.CLK
QC28 47P
QC27 47P
QC22 16P/CH
QC23 16P/CH
4MHZ QX1
QD13
QR37 330K
HC4 2.2/50
MC4558C (1/2)
QIC1 (1/2)
QIC2 (1/2)
QR31 100K
QC21 3.3/50
QR22 100K
QC17 3.3/50
QR21 100K
QR25 100K
QR23 100K
QR24 100K
QC19 3.3/50
QD11
QD10
QD9
QD8
QD7
QC14 393M
QC10 392M
QC9 122
VDD(+5)
VSS
MUTE(DISPLAY)
SURROUND(DISPLAY)
QC24 273
QC25 100/16
QD14
HR21 12K
QR40 100K
HR26 100K
SURROUND SW
QIC5
QC18 3.3/50
QR3R 1K
QR5R 6.8K
H12
AC
3B (1/4)

2.FRONT

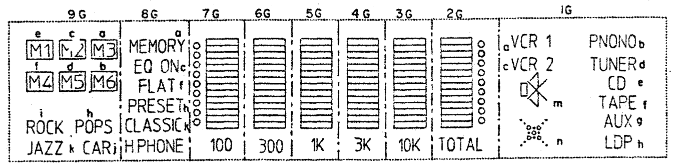
● IC	LOCATION
F3	HIC2(MSC7110)
G6	HIC1(LC7233)
N5	QIC4(LC866216A-5231)
K4,K5,K7	QIC1,2,3(MC4558)

● TR	LOCATION
G4	HQ8
D3	HQ6,3
G12,C6,E8,J2	HQ9,4,5,2
D4	HQ11
F12,C7,K2	HQ10,7,1

● SVA-9ME02(V.F. DISPLAY) : EFL 1

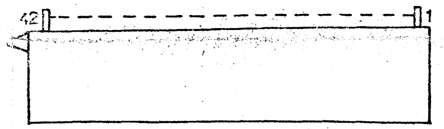


PIN NO	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	F	F	NP	3G	4G	5G	6G	7G	2G	1G	9G	8G	NP	NP	NP	NP	l	k	j	i	a	b	c	d	e	f	g	h	m	n	NP	F	F

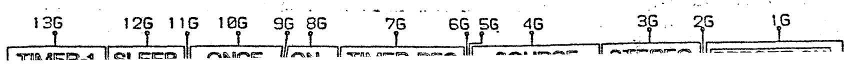

9G
8G
7G
6G
5G
4G
3G
2G
1G
M1
M2
M3
M4
M5
M6
ROCK
POPS
JAZZ
CAR
MEMORY
EQ ON
FLAT
PRESET
CLASSIC
H.PHONE
100
300
1K
3K
10K
TOTAL
VCR 1
VCR 2
PNONO
TUNER
CD
TAPE
AUX
LDP
m
n

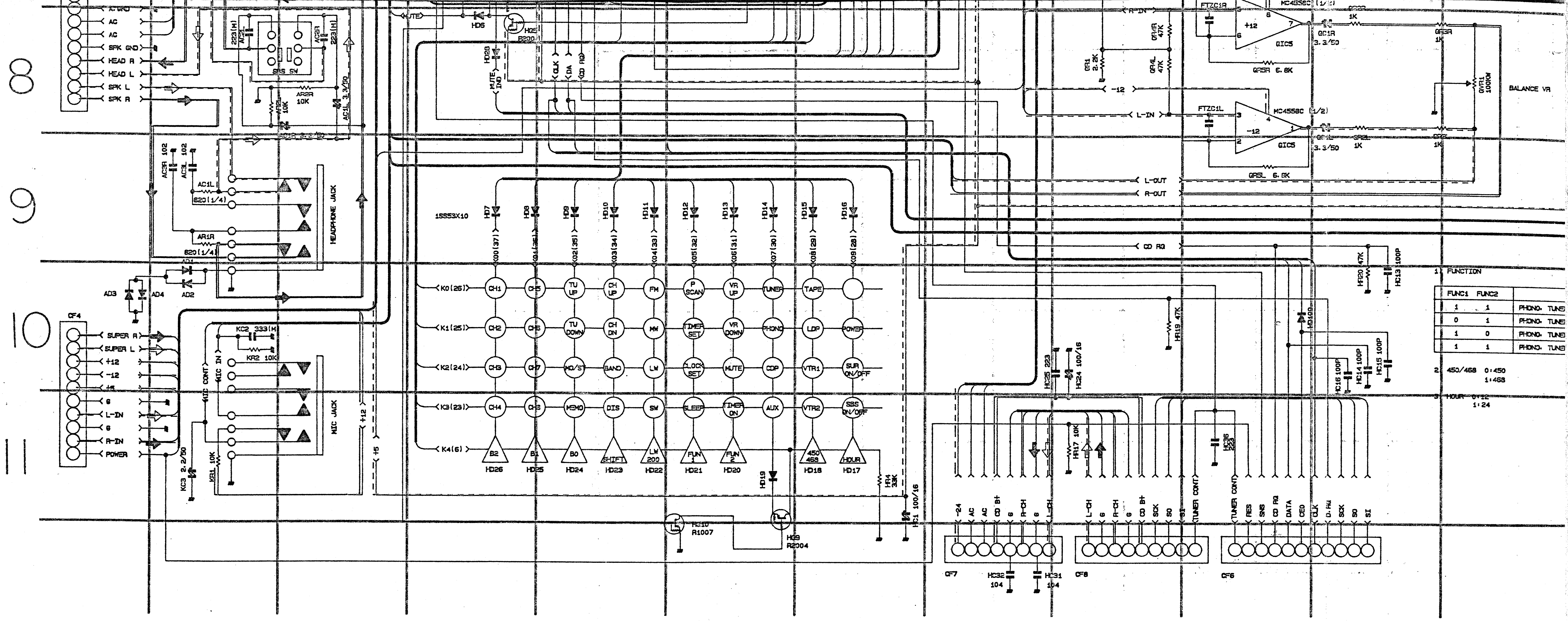
	9G	8G	7G	6G	5G	4G	3G	2G	1G		9G	8G	7G	6G	5G	4G	3G	2G	1G
a	M3	MEMORY	▭	▭	▭	▭	▭	▭	VCR1	h	POPS	PRESET	▭	▭	▭	▭	▭	▭	—
b	M6	—	▭	▭	▭	▭	▭	▭	PHONO	i	ROCK	—	▭	▭	▭	▭	▭	▭	—
c	M2	EQ ON	▭	▭	▭	▭	▭	▭	VCR2	j	CAR	—	▭	▭	▭	▭	▭	▭	—
d	M5		▭	▭	▭	▭	▭	▭	TUNER	k	JAZZ	CLASSIC	▭	▭	▭	▭	▭	▭	—
e	M1	—	▭	▭	▭	▭	▭	▭	CD	l	—	H.PHONE	100	300	1K	3K	10K		—
f	M4	FLAT	▭	▭	▭	▭	▭	▭	TAPE	m	—	—	—	—	—	—	—	—	
g	—	—	▭	▭	▭	▭	▭	▭	AUX	n	—	—	—	—	—	—	—	—	

● 13-ST-07GK(V.F DISPLAY) : HFL1

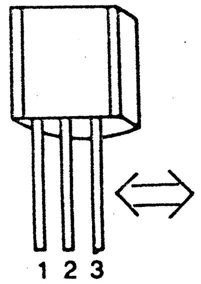


1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	18	19	20	21
F1	F1	NP	NP	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	Nc	Nc	Nc	Nc
22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	39	40	39	40
Nc	Nc	Nc	Nc	Nc	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P3	P2	P1	NP	NP	F2	F2


13G
12G
11G
10G
9G
8G
7G
6G
5G
4G
3G
2G
1G

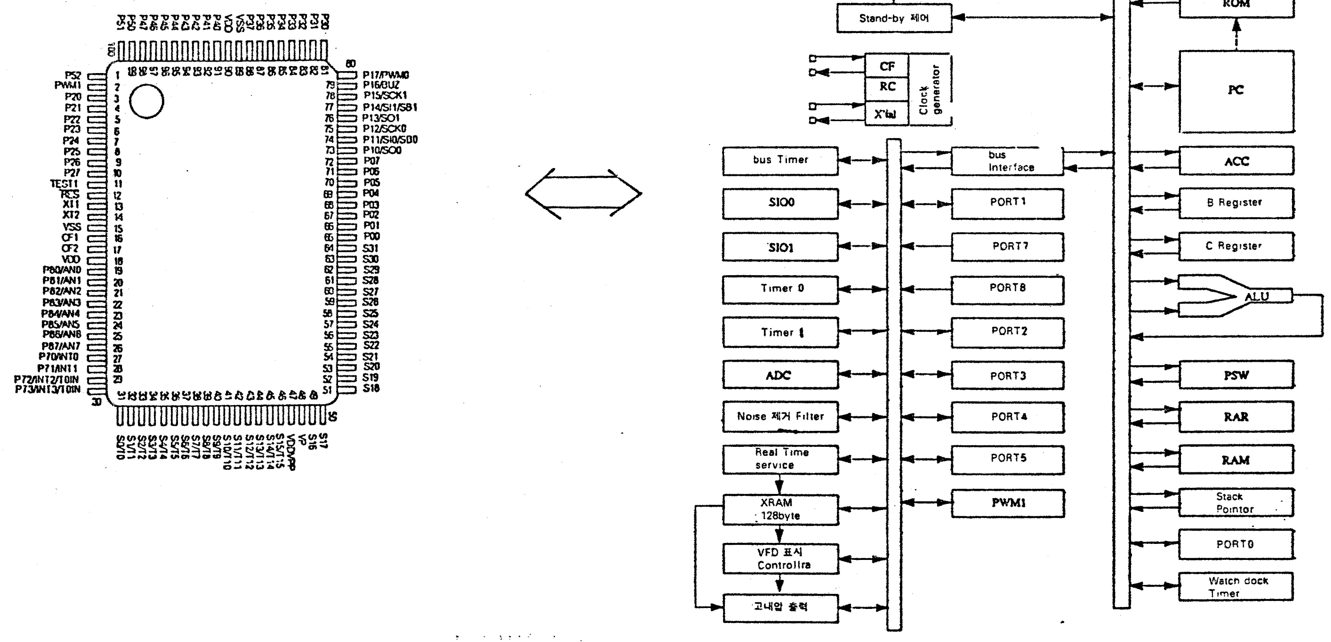

8
9
10
11
SPK GND
HEAD R
HEAD L
SPK L
SPK R
SBS SW
AR2R 10K
HEADPHONE JACK
MIC JACK
CF4
SUPER R
SUPER L
+12
-12
+5
L-IN
R-IN
POWER
KC2 333(M)
KR2 10K
MIC IN
MIC CONT
HD5
HQ5 B230
MUTE IND
CLK
DA
CD RQ
1SS53X10
K0(26)
K1(25)
K2(24)
K3(23)
K4(6)
CH1
CH5
TU UP
CH UP
FM
P SCAN
VR UP
TUNER
TAPE
CH2
CH6
TU DOWN
CH DN
MW
TIMER SET
VR DOWN
PHONO
LDP
POWER
CH3
CH7
MO/ST
BAND
LW
CLOCK SET
MUTE
CDP
VTR1
SUR ON/OFF
CH4
CH8
MEMO
DIS
SW
SLEEP
TIMER ON
AUX
VTR2
SBS ON/OFF
B2
B1
B0
SHIFT
LW 200
FUN 1
FUN 2
450 468
HOUR
HQ10 R1007
HQ9 R2004
MC4558C (1/2)
QIC5
BALANCE VR
QVR1 100KW
L-IN
R-IN
L-OUT
R-OUT
CD RQ
CF7
CF8
CF6
FUNCTION
FUNC1 FUNC2
PHONO. TUNE
450/468 0:450 1:468
HOUR 0:12 1:24

● TR

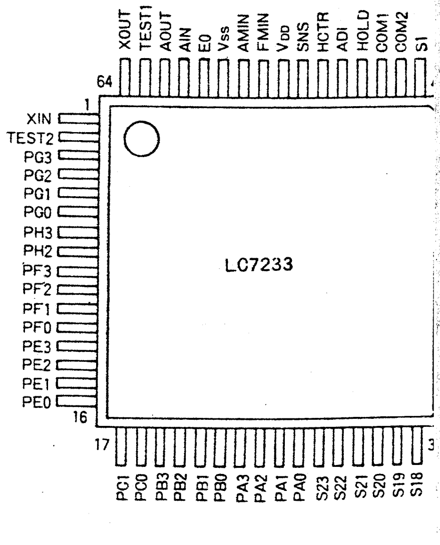


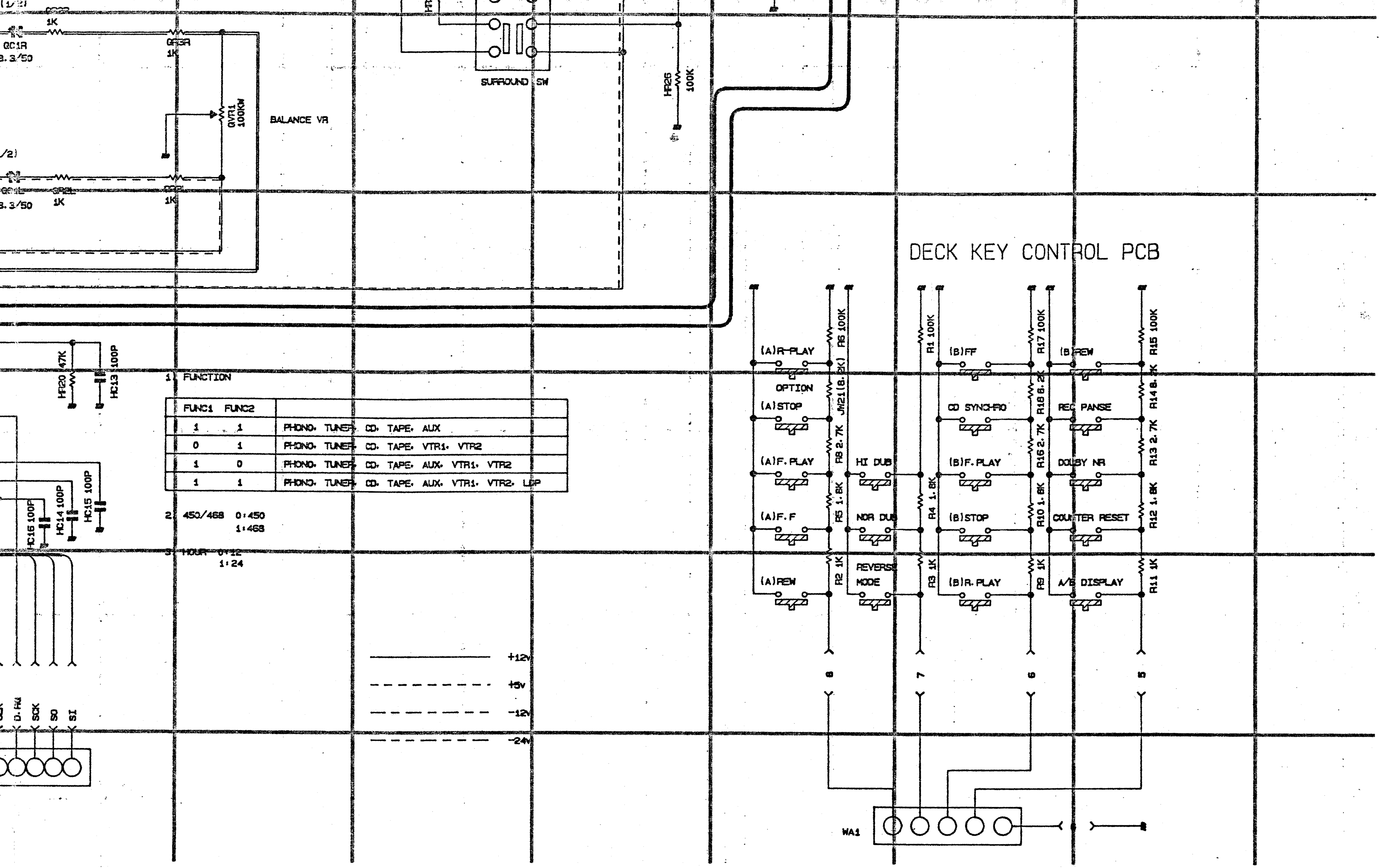
TR	1	2	3
KSR2458,KSR1003 KSR2004,KSR1002	E	C	B
KSC945,KSC1008 KSA733,KSA708, KSC838	E	B	C

● LC866216(MICOM IC) ; QIC4


편집제어
Stand-by 제어
CF
RC
X'tal
Clock generator
bus Timer
SIO0
SIO1
Timer 0
Timer 1
ADC
Noise 제거 Filter
Real Time service
XRAM 128byte
VFD 표시 Controller
고내압 출력
bus Interface
PORT1
PORT7
PORT8
PORT2
PORT3
PORT4
PORT5
PWM1
IR
PLA
ROM
PC
ACC
B Register
C Register
ALU
PSW
RAR
RAM
Stack Pointer
PORT0
Watch clock Timer

● LC7233-8451(MICOM IC) : UIC1


XOUT
TEST1
AOUT
AIN
E0
Vss
AMIN
FMIN
VDD
SNS
HCTR
ADI
HOLD
COM1
COM2
S1
XIN
TEST2
PG3
PG2
PG1
PG0
PH3
PH2
PF3
PF2
PF1
PF0
PE3
PE2
PE1
PE0
LC7233
PC1
PC0
PB3
PB2
PB1
PB0
PA3
PA2
PA1
PA0
S23
S22
S21
S20
S19
S18
64
1
16
17


SURROUND SW
BALANCE VR
GVR1 100KW
HR66 100K
GC1R
GR3R 1K
1K
3.3/50
GR2L 1K
GR3L 1K
HR20 47K
HC13 100P
HC16 100P
HC14 100P
HC15 100P
SCK
SO
SI
D. FM
+12V
+5V
-12V
-24V
DECK KEY CONTROL PCB
(A)R-PLAY
OPTION
(A)STOP
(A)F.PLAY
(A)F.F
(A)REW
HI DUB
NOR DUB
REVERSE MODE
(B)FF
CD SYNCHRO
(B)F.PLAY
(B)STOP
(B)R.PLAY
(B)REW
REC PANSE
DOLBY NR
COUNTER RESET
A/B DISPLAY
R6 100K
JW21(8.2K)
R8 2.7K
R5 1.8K
R2 1K
R1 100K
R4 1.8K
R3 1K
R17 100K
R18 8.2K
R16 2.7K
R10 1.8K
R9 1K
R15 100K
R14 8.2K
R13 2.7K
R12 1.8K
R11 1K
8
7
6
5
WA1

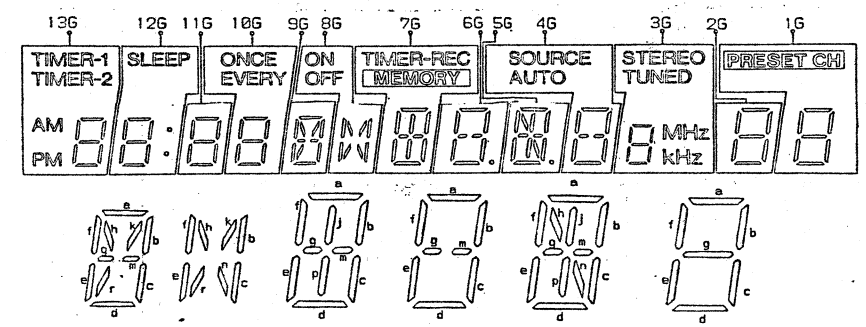
1) FUNCTION

FUNC1	FUNC2	
1	1	PHONO· TUNER· CD· TAPE· AUX
0	1	PHONO· TUNER· CD· TAPE· VTR1· VTR2
1	0	PHONO· TUNER· CD· TAPE· AUX· VTR1· VTR2
1	1	PHONO· TUNER· CD· TAPE· AUX· VTR1· VTR2· LDP

2) 450/468 0:450
1:468

3) HOUR 0:12
1:24

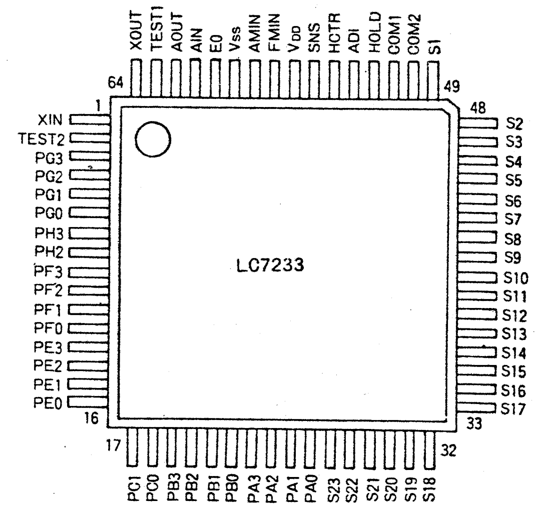
F1	F1	NP	NP	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	Nc	Nc	Nc	Nc
22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	39	40	39	40
Nc	Nc	Nc	Nc	Nc	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P3	P2	P1	NP	NP	F2	F2

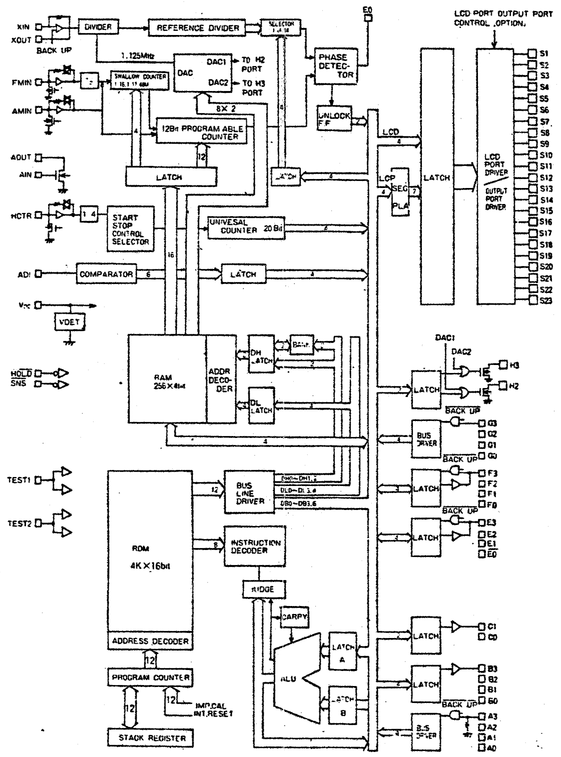

13G
12G
11G
10G
9G
8G
7G
6G
5G
4G
3G
2G
1G
TIMER-1
TIMER-2
SLEEP
ONCE
EVERY
ON
OFF
TIMER-REC
MEMORY
SOURCE
AUTO
STEREO
TUNED
PRESET CH
AM
PM
MHz
kHz
a
b
c
d
e
f
g

ANODE CONNECTION

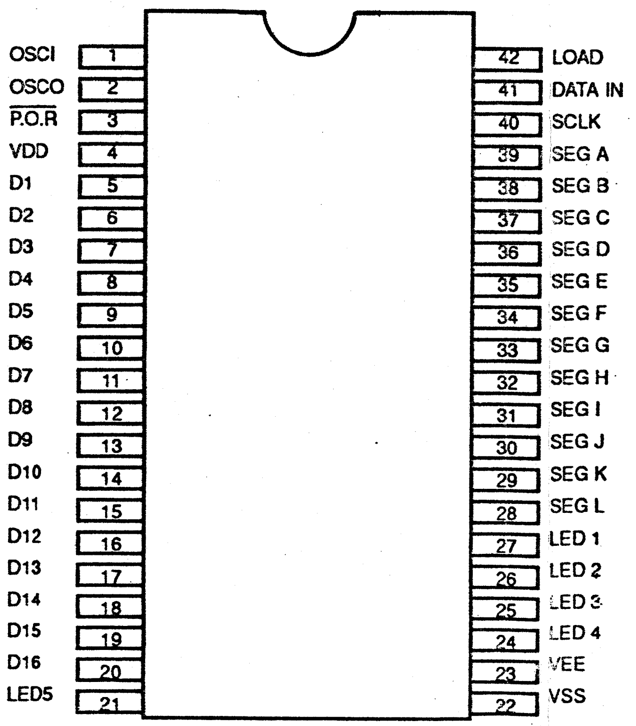
	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	TIMER-1	SLEEP	—	ONCE	—	ON	TIMER-REC	—	j, p	SOURCE	STEREO	—	PRESET CH
P2	TIMER-2	—	—	EVERY	k	OFF	MEMORY	o	o	AUTO	TUNED	—	—
P3	AM	—	—	—	h	h	j	—	h	—	MHz	—	—
P4	PM		—	—	r	n	p	—	n	—	kHz	—	—
P5	—	—	—	—	m	k	m	m	m	m		—	—
P6	a	a	a	a	a	—	a	a	a	a	a	a	a
P7	b	b	b	b	b	b	b	b	b	b	b	b	b
P8	c	c	c	c	c	c	c	c	c	c	c	c	c
P9	d	d	d	d	d	—	d	d	d	d	d	d	d
P10	e	e	e	e	e	e	e	e	e	e	e	e	e
P11	f	f	f	f	f	f	f	f	f	f	f	f	f
P12	g	g	g	g	g	r	g	g	g	g	g	g	g

● LC7233-8451(MICOM IC) : UIC1

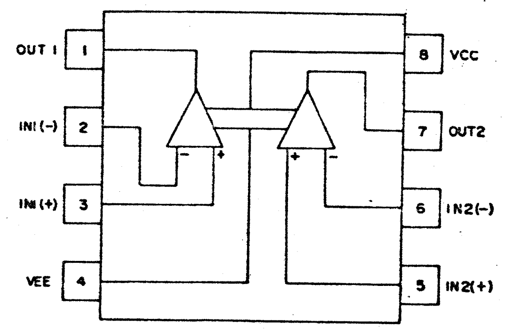

XOUT
TEST1
AOUT
AIN
E0
Vss
AMIN
FMIN
VDD
SNS
HCTR
ADI
HOLD
COM1
COM2
S1
64
49
1
48
XIN
TEST2
PG3
PG2
PG1
PG0
PH3
PH2
PF3
PF2
PF1
PF0
PE3
PE2
PE1
PE0
16
33
17
32
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
S15
S16
S17
LC7233
PC1
PC0
PB3
PB2
PB1
PB0
PA3
PA2
PA1
PA0
S23
S22
S21
S20
S19
S18


XIN
XOUT
BACK UP
DIVIDER
REFERENCE DIVIDER
SELECTOR
E0
1.125MHz
DAC
DAC1
DAC2
TO H2 PORT
TO H3 PORT
PHASE DETECTOR
FMIN
AMIN
SWALLOW COUNTER
8X 2
12Bit PROGRAM ABLE COUNTER
UNLOCK F.F
LCD PORT OUTPUT PORT CONTROL OPTION
LCD
LCD PORT DRIVER
OUTPUT PORT DRIVER
AOUT
AIN
LATCH
HCTR
START STOP CONTROL SELECTOR
UNIVESAL COUNTER 20 Bit
SEG PLA
ADI
COMPARATOR
VCC
VDET
HOLD
SNS
RAM 256×4bit
ADDR DECODER
DH LATCH
DL LATCH
BANK
BUS DRIVER
BACK UP
TEST1
TEST2
BUS LINE DRIVER
ROM 4K×16bit
INSTRUCTION DECODER
ADDRESS DECODER
PROGRAM COUNTER
STACK REGISTER
CARRY
ALU
INITIAL INT.RESET
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
S15
S16
S17
S18
S19
S20
S21
S22
S23
H3
H2
G3
G2
G1
G0
F3
F2
F1
F0
E3
E2
E1
E0
C1
C0
B3
B2
B1
B0
A3
A2
A1
A0

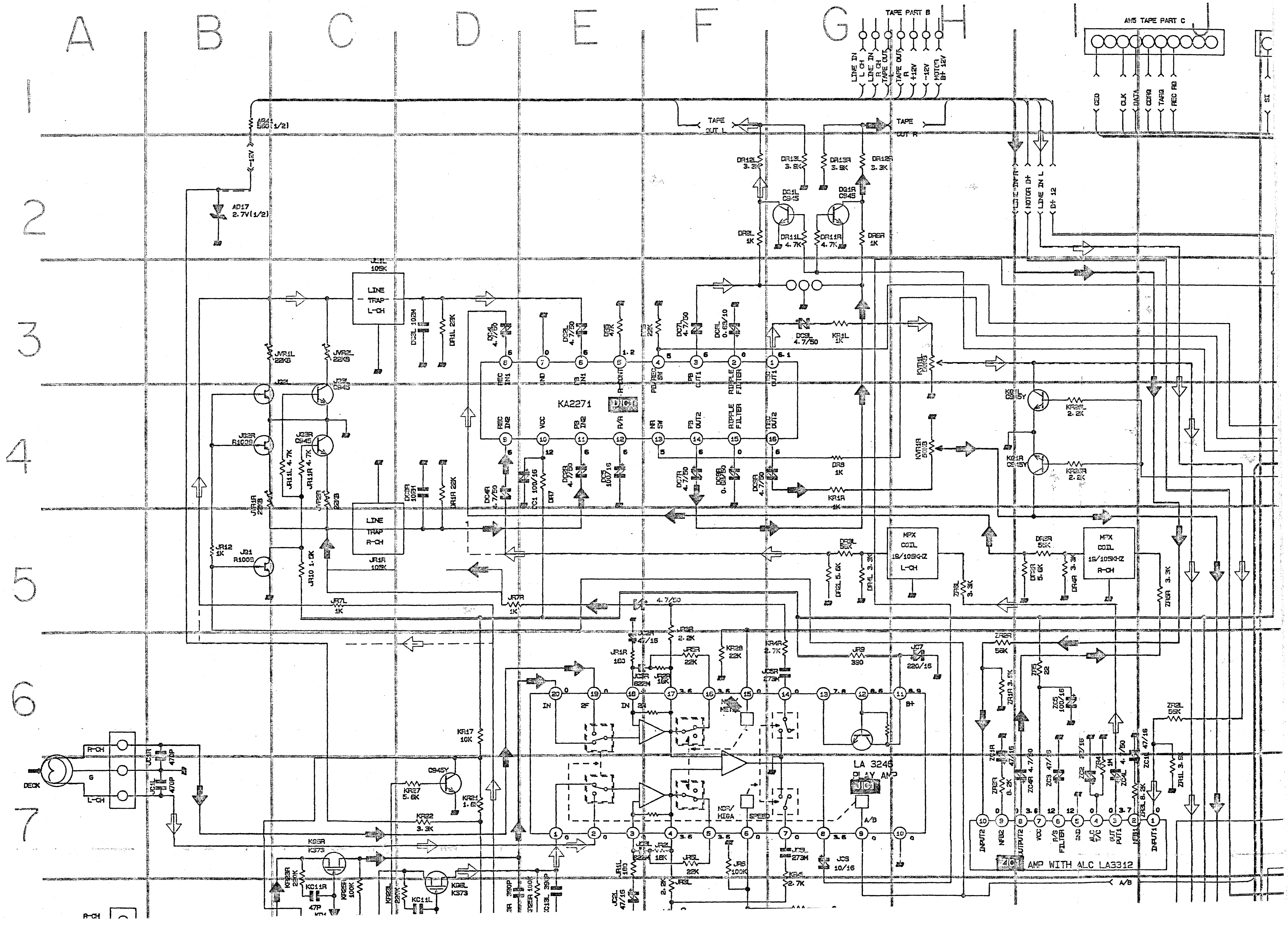
● MSC7110-01SS(DRIVE IC) : QIC1

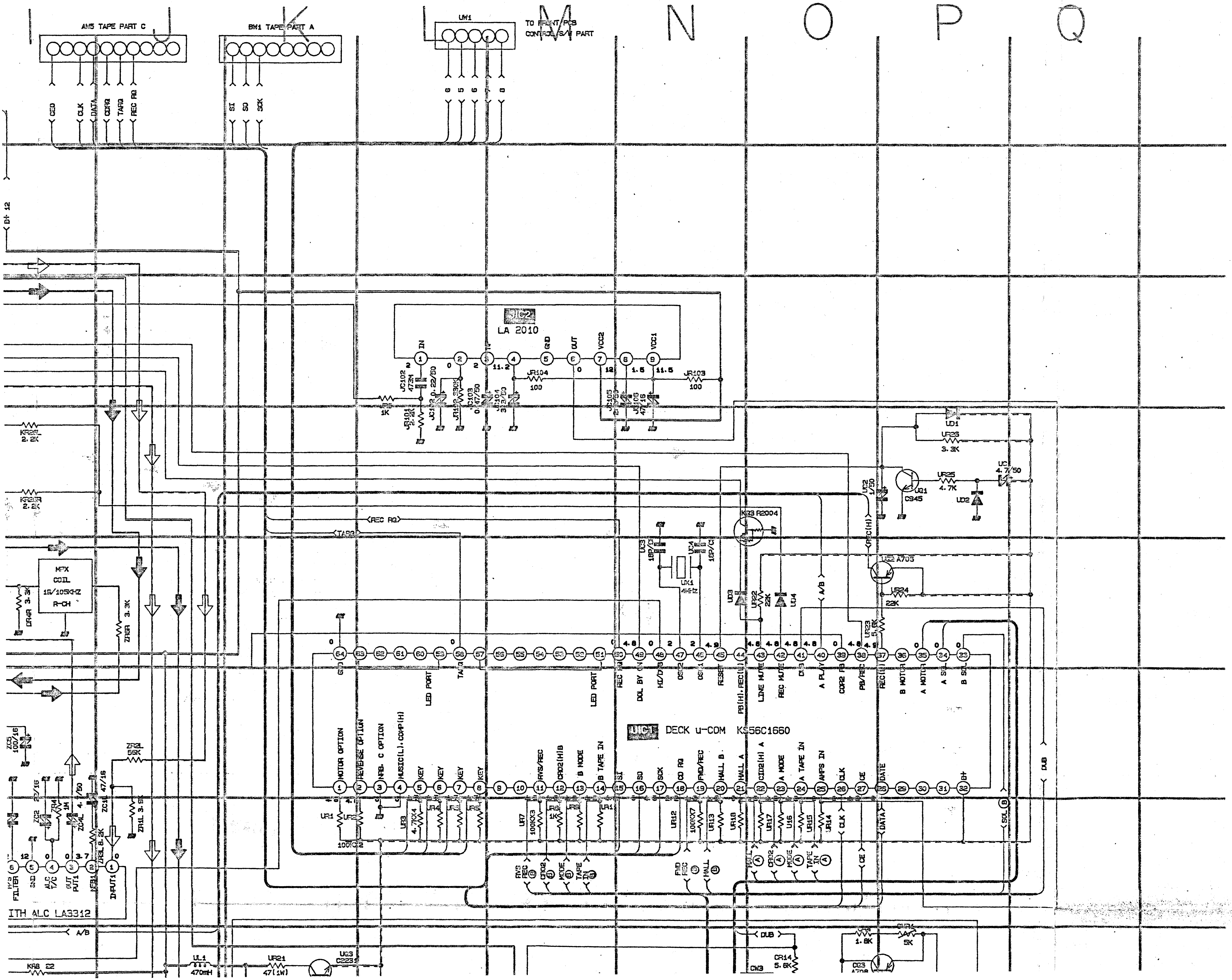

OSCI 1
OSCO 2
P.O.R 3
VDD 4
D1 5
D2 6
D3 7
D4 8
D5 9
D6 10
D7 11
D8 12
D9 13
D10 14
D11 15
D12 16
D13 17
D14 18
D15 19
D16 20
LED5 21
42 LOAD
41 DATA IN
40 SCLK
39 SEG A
38 SEG B
37 SEG C
36 SEG D
35 SEG E
34 SEG F
33 SEG G
32 SEG H
31 SEG I
30 SEG J
29 SEG K
28 SEG L
27 LED 1
26 LED 2
25 LED 3
24 LED 4
23 VEE
22 VSS

● MC4558 (OP AMP) ; QIC1,2,3,5


OUT 1 1
IN1(-) 2
IN1(+) 3
VEE 4
8 VCC
7 OUT2
6 IN2(-)
5 IN2(+)

3.CASSETTE SECTION

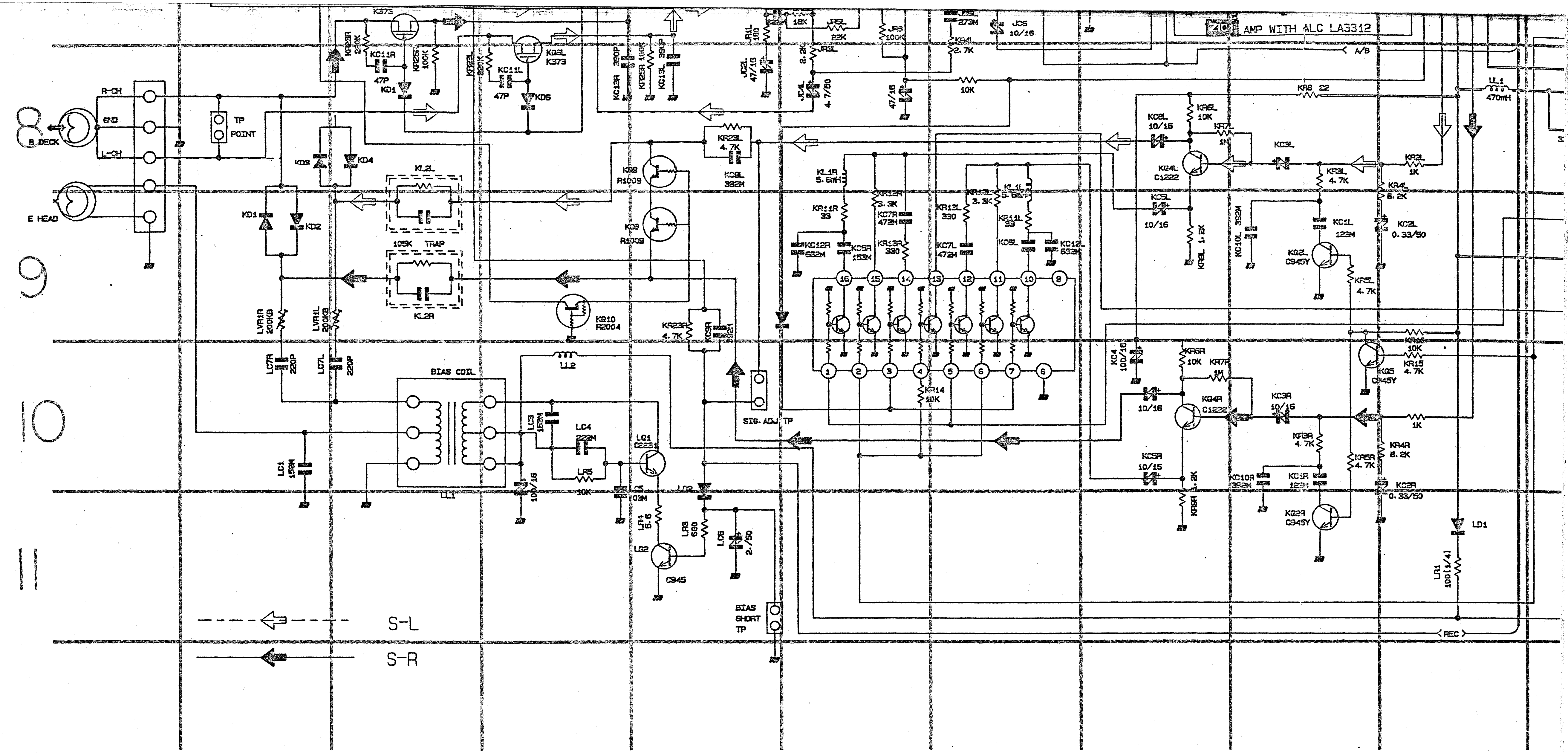

A
B
C
D
E
F
G
H
I
1
2
3
4
5
6
7
TAPE PART B
LINE IN L CH
LINE IN R CH
TAPE OUT L
TAPE OUT R
+12V
-12V
MOTOR B+ 12V
AM5 TAPE PART C
CED
CLK
DATA
CDRG
TARG
REC RQ
AR41 560(1/2)
-12V
AD17 2.7V(1/2)
TAPE OUT L
TAPE OUT R
DR12L 3.3K
DR13L 3.9K
DR13R 3.9K
DR12R 3.3K
DQ1L C945
DQ1R C945
DR9L 1K
DR11L 4.7K
DR11R 4.7K
DR9R 1K
LINE IN R
MOTOR B+
LINE IN L
B+ 12
LINE TRAP L-CH
JL1L 105K
DC3L 102M
DR1L 22K
JVR1L 22KB
JVR2 22KB
JQ2L C945
JQ1
JQ2R R1009
JQ3R C945
JR11L 4.7K
JR11R 4.7K
JVR1R 22KB
JVR2R 22KB
LINE TRAP R-CH
JR1R 105K
DC3R 102M
DR1R 22K
JR12 1K
JQ1 R1009
JR10 1.5K
JR7L 1K
JR7R 1K
KA2271
DIC1
REC IN1
GND
PB IN1
R-CONT
PB/REC SW
PB OUT1
RIPPLE FILTER
REC OUT1
REC IN2
VCC
PB IN2
R/A
NR SW
PB OUT2
RIPPLE FILTER
REC OUT2
DC4L 4.7/50
DC2L 4.7/50
DR5 47K
DR6 22K
DC7L 4.7/50
DC6L 0.68/10
DC8L 4.7/50
KR1L 1K
KVR1L 50KB
KQ1L C945Y
KR2L 2.2K
KVR1R 50KB
KQ1R C945Y
KR2R 2.2K
DC4R 4.7/50
DC1 100/16
DR7
DC2R 4.7/50
DC5 100/16
DC7R 4.7/50
DC6R 0.68/50
DC8R 4.7/50
DR8 1K
KR1R 1K
MPX COIL 19/105KHZ L-CH
DR3L 56K
DR2L 5.6K
DR4L 3.3K
ZR3L 3.3K
MPX COIL 19/105KHZ R-CH
DR3R 56K
DR2R 5.6K
DR4R 3.3K
ZR3R 3.3K
4.7/50
JR1R 100
JC3R 47/16
JR2R 2.2K
JR5R 22K
JC5R 822M
JR3R 18K
KR28 22K
KR4R 2.7K
JC6R 273M
JR9 390
JC7 220/16
ZR2R 56K
ZR1R 3.9K
ZR5 22
ZC5 100/16
ZR2L 56K
IN
2F
IN
B+
MOTOR
LA 3246 PLAY AMP
JIC1
NOR/HIGA
SPEED
A/B
ZC1R 47/16
ZR6R 8.2K
ZC4R 4.7/50
ZC3 47/16
ZC2 22/16
ZR4 1M
ZC4L 4.7/50
ZC1L 47/16
ZR6L 8.2K
ZR1L 3.9K
INPUT2
NFB2
OUTPUT2
VCC
R/S FILTER
GND
ALC T/C
OUTPUT1
NFB1
INPUT1
ZIC1 AMP WITH ALC LA3312
A/B
R-CH
G
L-CH
DECK
JC3R 470P
JC1L 470P
KR17 10K
C945Y
KR27 5.6K
KR21 1.8K
KR22 3.3K
KQ3R K373
KR23R 220K
KC11R 47P
KR25R 100K
KR23L 220K
KC11L
KQ3L K373
JC2L 47/16
JR1L 100
JC3L 822M
JR2L 18K
JR5L 22K
JR6 100K
JC5L 273M
KR4L 2.7K
JC3 10/16
R-CH


I
J
K
L
M
N
O
P
Q
AM5 TAPE PART C
BM1 TAPE PART A
UM1
TO FRONT PCB CONTROL S/W PART
JIC2 LA 2010
IN
GND
OUT
VCC2
VCC1
UR104 100
UR103 100
UIC1 DECK u-COM KS56C1660
UX1 4MHz
KQ3 R2004
UQ1 C945
UQ2 A708
UD1
UD2
UR33 3.3K
UR35 4.7K
UR34 22K
MPX COIL 19/105KHZ R-CH
KR22L 2.2K
KR22R 2.2K
REC RQ
TARQ
A/B
DUB
ITH ALC LA3312
UL1 470mH
UR21 47(1W)
UQ3 C2235
CR14 5.6K
CQ3 A708
CW3
MOTOR OPTION
REVERSE OPTION
NRB. C OPTION
MUSIC(L).COMP(H)
KEY
RVS/REC
CRO2(H)B
B MODE
B TAPE IN
SI
SO
SCK
CD RQ
FWD/REC
HALL B
HALL A
CRO2(H) A
A MODE
A TAPE IN
AMPS IN
CLK
CE
DATE
B+
LED PORT
TARQ
REC MUTE
DOL BY ON
HI/DB
OSC2
OSC1
RESET
PB(H).REC(L)
LINE MUTE
A PLAY
CR02 PB
PB/REC
REC(H)
B MOTOR
A MOTOR
A SOL
B SOL

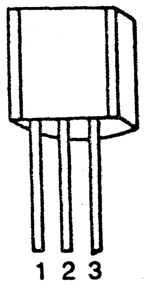
3.CASSETTE SECTION

● IC	LOCATION
F4	DIC1(KA2271)
G7	JIC1(LA3246)
I7	ZIC1(LA3312)
M3	JIC2(LA2010)
N6	UIC1(KS56C1660)

● TR	LOCATION
P5,L9,P9	UQ2,KQ6,CQ3
H8,H10	KQ4L,KQ4R
O10	CQ2
O9,O8,E10,L10,I10	CQ4,8,LQ2 KQ7,5
G3,C4	DQ1L,1R,JQ3L,3R
P4	UQ1
K8,E10	UQ3,LQ1

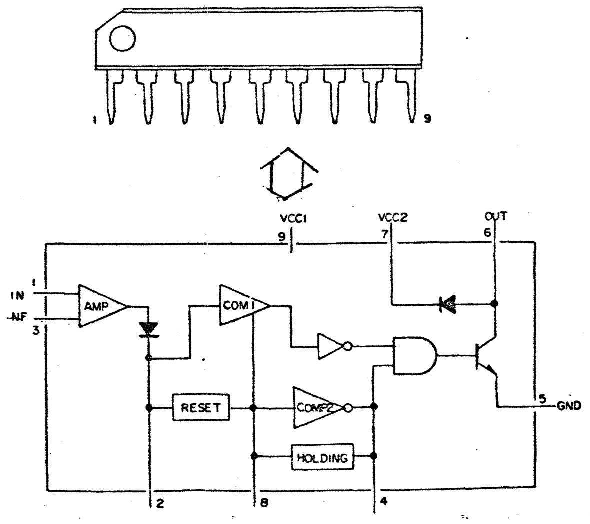

8
9
10
11
B DECK
E HEAD
R-CH
GND
L-CH
TP POINT
KD1
KD2
KD3
KD4
KL2L
105K TRAP
KL2R
LVR1R 200KB
LVR1L 200KB
LC7R 220P
LC7L 220P
BIAS COIL
LL1
LC1 153M
LL2
LC3 153M
LC4 222M
LR5 10K
LQ1 C2331
LQ2 C945
LR4 5.6
LR3 680
LC5 103M
LC6 2.2/50
LD2
BIAS SHORT TP
SIG. ADJ. TP
K373
KQ6L K373
KR23R 220K
KR25R 100K
KC11R 47P
KC11L 47P
KD5
KQ9 R1009
KQ8 R1009
KQ10 R2004
KR23L 4.7K
KC9L 392M
KR23R 4.7K
KC9R 392M
KL1R 5.6mH
KL1L 5.6mH
KR11R 33
KR12R 3.3K
KR12L 3.3K
KR11L 33
KC7R 472M
KC7L 472M
KR13R 330
KR13L 330
KC12R 682M
KC12L 682M
KC6R 153M
KC6L
KR14 10K
AMP WITH ALC LA3312
A/B
KR8 22
KC8L 10/16
KR6L 10K
KR7L 1M
KQ4L C1222
KC5L 10/16
KR9L 1.2K
KC10L 392M
KC3L
KR3L 4.7K
KR2L 1K
KR4L 8.2K
KC1L 123M
KC2L 0.33/50
KQ2L C945Y
KR5L 4.7K
KC4 100/16
KR6R 10K
KR7R 1M
KQ4R C1222
KC8R 10/16
KC3R 10/16
KR2R 1K
KR3R 4.7K
KR4R 8.2K
KR5R 4.7K
KC5R 10/15
KR9R 1.2K
KC10R 392M
KC1R 123M
KC2R 0.33/50
KQ2R C945Y
KQ5 C945Y
KR16 10K
KR15 4.7K
UL1 470mH
LD1
LR1 100(1/4)
REC
S-L
S-R

● TR

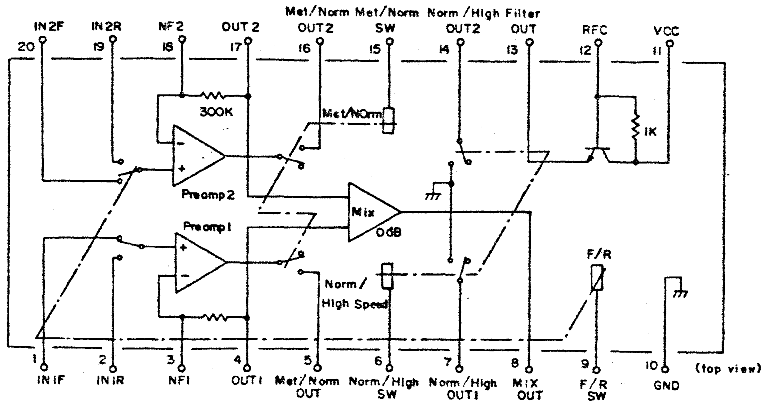


TR	1	2	3
KSB564,KSC945 KSC1008 KSC1222,KSD471	E	B	C
KSC2331,KSR2003 KSR1003,KSR1009 KSA928	E	C	B
MC78L06A/NJM78L06	OUT	GND	IN

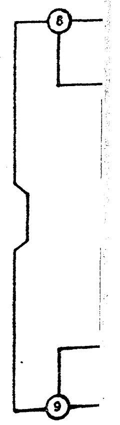
● LA2010(AMPS IC) : JIC2

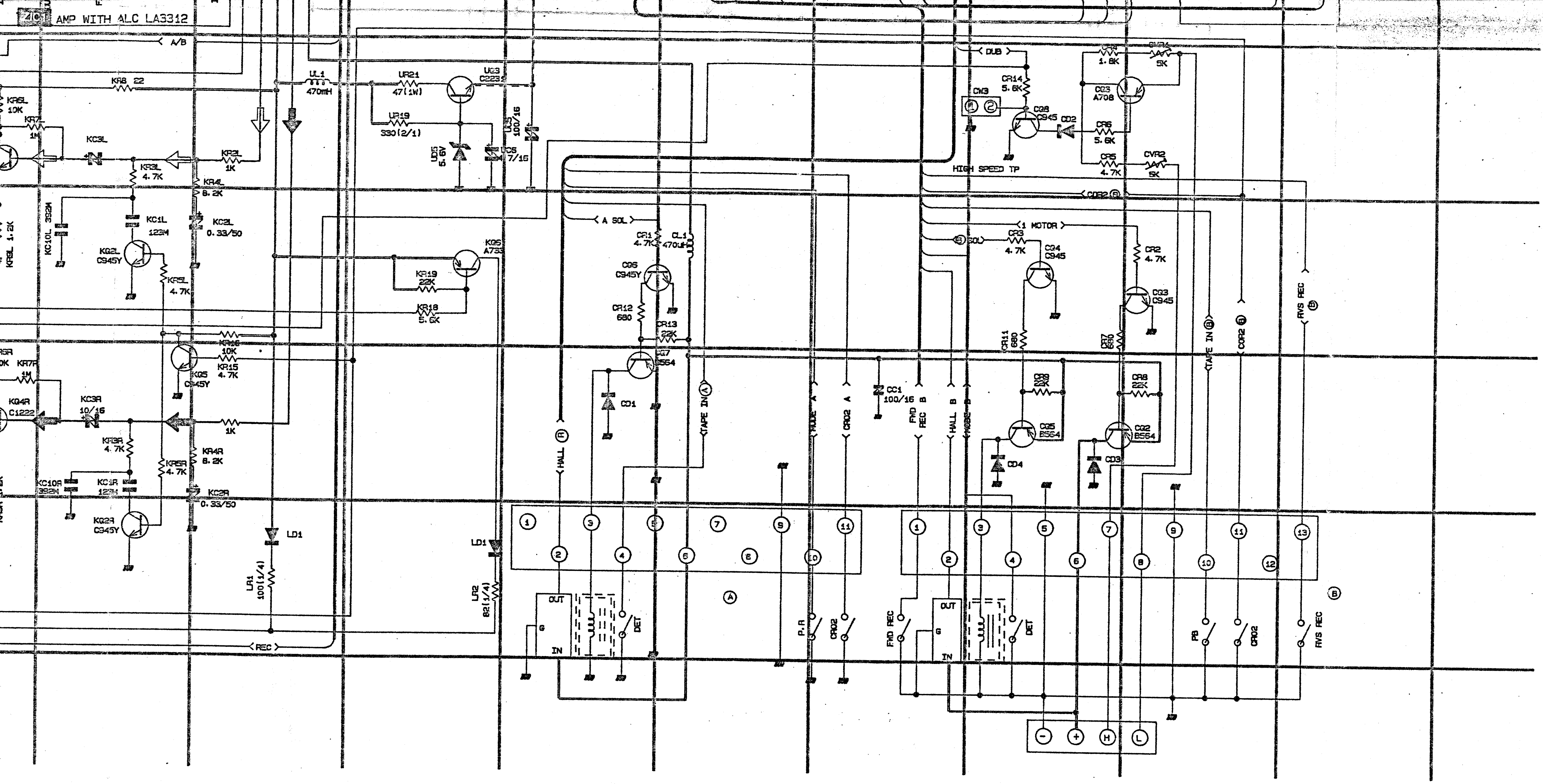

1
9
VCC1
VCC2
OUT
9
7
6
IN
-NF
3
1
AMP
COM1
RESET
COMP2
HOLDING
5
GND
2
8
4

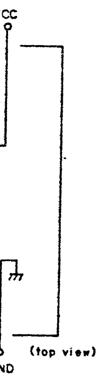
● LA3246(LINEAR IC) : JIC1


IN2F
IN2R
NF2
OUT2
Met/Norm OUT2
Met/Norm SW
Norm/High Filter OUT2
OUT
RFC
VCC
20
19
18
17
16
15
14
13
12
11
300K
Met/Norm
1K
Preamp2
Mix 0dB
Preamp1
Norm/ High Speed
F/R
1
2
3
4
5
6
7
8
9
10
(top view)
IN1F
IN1R
NF1
OUT1
Met/Norm OUT
Norm/High SW
Norm/High OUT1
MIX OUT
F/R SW
GND

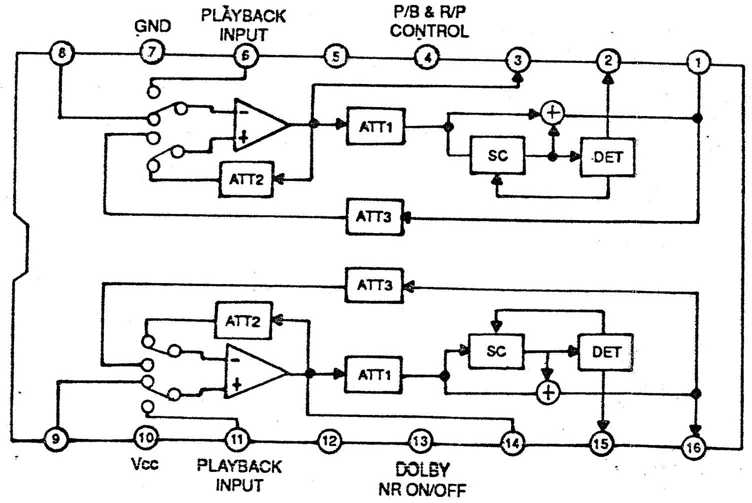
● KA2271(DOL

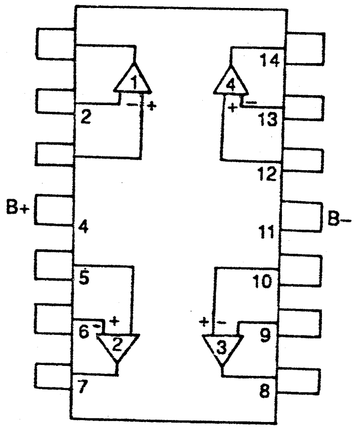



ZIC1 AMP WITH ALC LA3312
A/B
KR8 22
UL1 470mH
UR21 47(1W)
UQ3 C2235
UR19 330(2/1)
UD5 5.6V
UC6 7/16
UC3 100/16
KR6L 10K
KR7L 1M
KC3L
KR3L 1K
KR3L 4.7K
KR4L 8.2K
KC2L 0.33/50
KC1L 123M
KC10L 392M
KQ2L C945Y
KR5L 4.7K
KQ5 A733
KR19 22K
KR18 5.6K
KR16 10K
KR15 4.7K
KQ5 C945Y
KQ4R C1222
KC3R 10/16
KR3R 4.7K
KR5R 4.7K
KR4R 8.2K
KC1R 123M
KC10R 392M
KC2R 0.33/50
KQ2R C945Y
LD1
LR1 100(1/4)
LR2 82(1/4)
REC
DUB
CW3
CR14 5.6K
CQ6 C945
CD2
CR4 1.8K
CVR1 5K
CQ3 A708
CR6 5.6K
CR5 4.7K
CVR2 5K
HIGH SPEED TP
CDR2
A SOL
CR1 4.7K
CL1 470uH
CQ5 C945Y
CR12 680
CR13 22K
CQ7 B564
CD1
TAPE IN A
HALL B
MODE A
CRO2 A
CC1 100/16
FWD REC B
HALL B
MODE B
1 MOTOR
SOL
CR3 4.7K
CQ4 C945
CR2 4.7K
CQ3 C945
CR11 680
CR7 680
CR9 22K
CR8 22K
CQ5 B564
CQ2 B564
CD4
CD3
TAPE IN B
CDR2 B
RVS REC B
OUT
G
IN
DET
P.R
CRO2
FWD REC
PB
RVS REC
A
B
- + H L

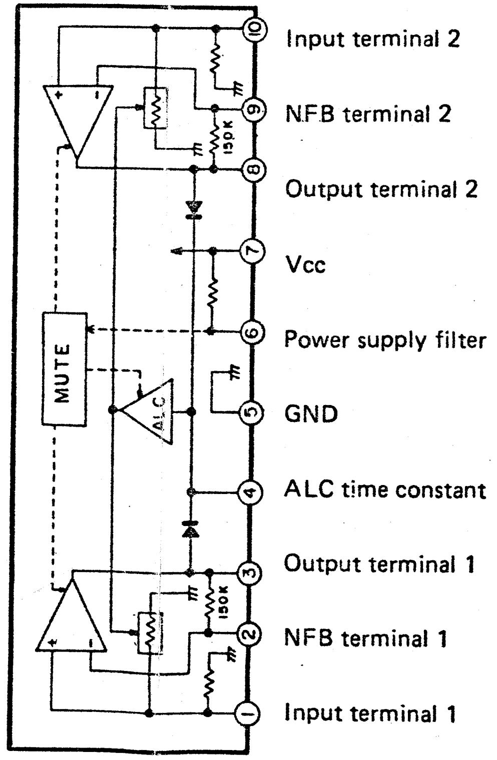

CC
(top view)
ND

● KA2271(DOLBY IC) : DIC1

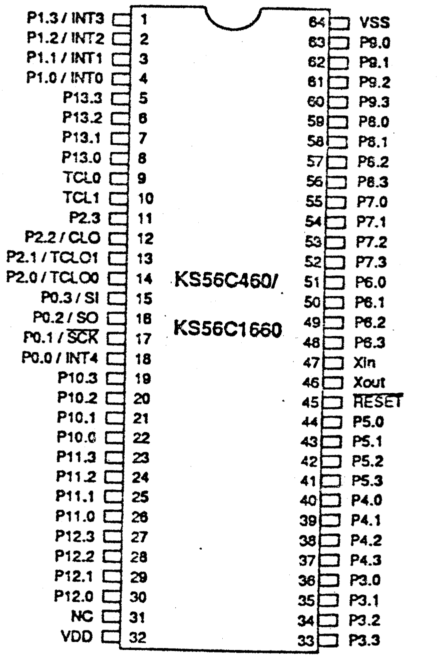

GND
PLAYBACK INPUT
P/B & R/P CONTROL
ATT1
ATT2
ATT3
SC
DET
Vcc
PLAYBACK INPUT
DOLBY NR ON/OFF
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16


B+
B−
1
2
3
4
5
6
7
8
9
10
11
12
13
14

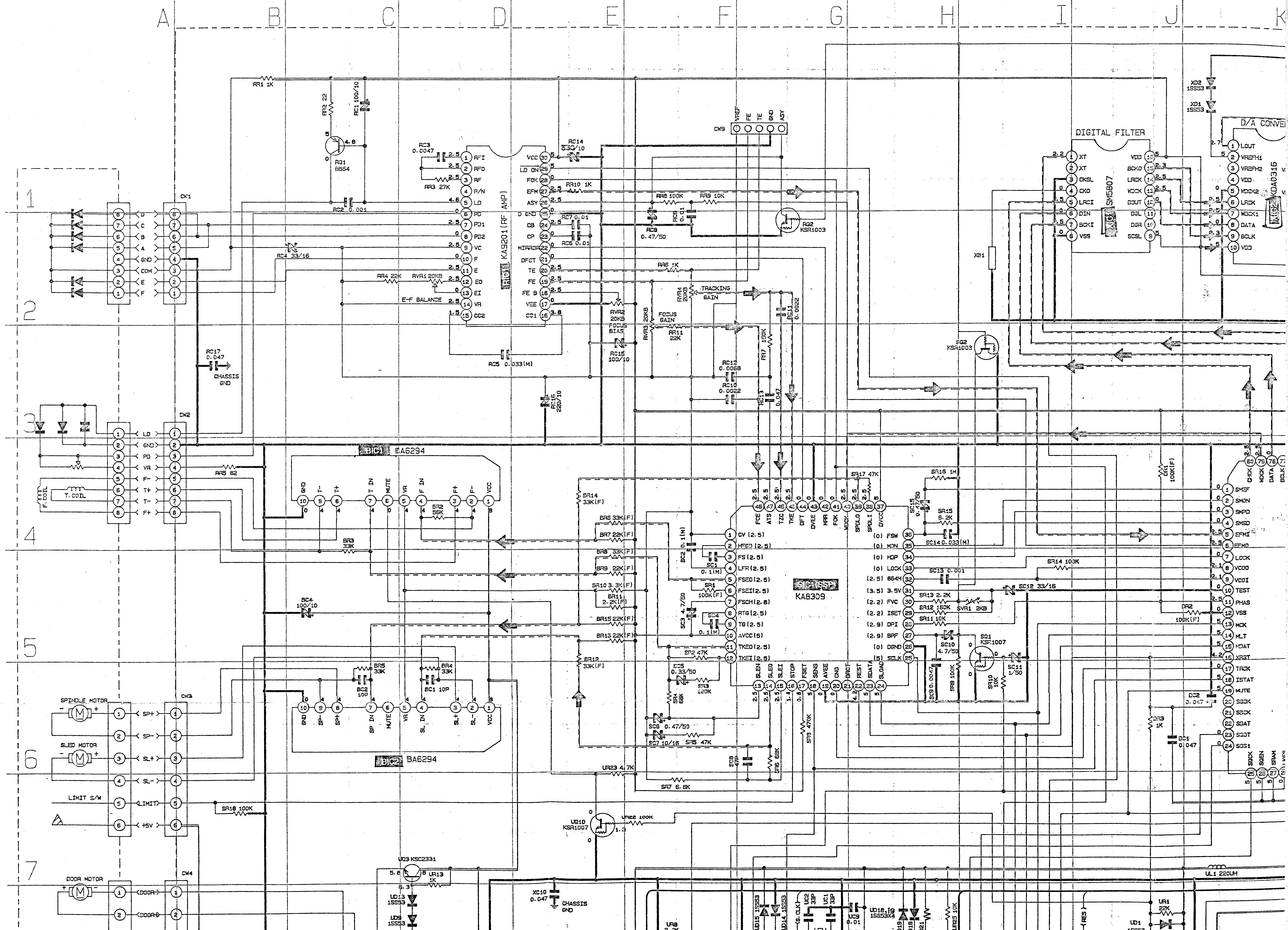
● BA3312N(REC ALC AMP) :ZIC1

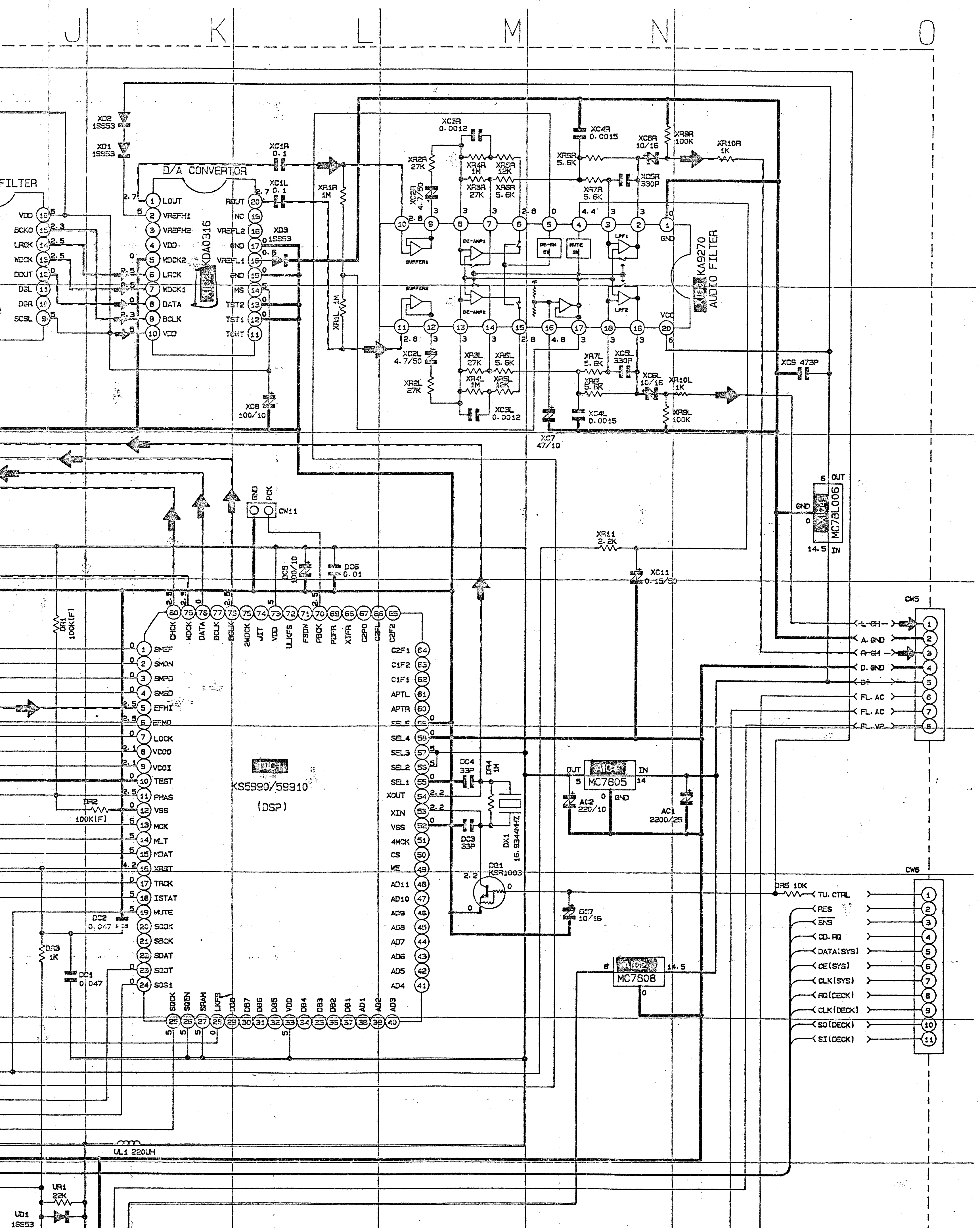

Input terminal 2
NFB terminal 2
Output terminal 2
Vcc
Power supply filter
GND
ALC time constant
Output terminal 1
NFB terminal 1
Input terminal 1
MUTE
ALC
150K
150K

● KS56C1660(MICOM IC) : UIC1


KS56C460/
KS56C1660
1 P1.3/INT3
2 P1.2/INT2
3 P1.1/INT1
4 P1.0/INT0
5 P13.3
6 P13.2
7 P13.1
8 P13.0
9 TCL0
10 TCL1
11 P2.3
12 P2.2/CLO
13 P2.1/TCLO1
14 P2.0/TCLO0
15 P0.3/SI
16 P0.2/SO
17 P0.1/SCK
18 P0.0/INT4
19 P10.3
20 P10.2
21 P10.1
22 P10.0
23 P11.3
24 P11.2
25 P11.1
26 P11.0
27 P12.3
28 P12.2
29 P12.1
30 P12.0
31 NC
32 VDD
64 VSS
63 P9.0
62 P9.1
61 P9.2
60 P9.3
59 P8.0
58 P8.1
57 P8.2
56 P8.3
55 P7.0
54 P7.1
53 P7.2
52 P7.3
51 P6.0
50 P6.1
49 P6.2
48 P6.3
47 Xin
46 Xout
45 RESET
44 P5.0
43 P5.1
42 P5.2
41 P5.3
40 P4.0
39 P4.1
38 P4.2
37 P4.3
36 P3.0
35 P3.1
34 P3.2
33 P3.3

4.CD PLAYER SECTION


A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
CW1
CW2
CW3
CW4
CW9
VREF
FE
TE
GND
ASY
RR1 1K
RR2 22
RC1 100/10
RQ1 B564
RC3 0.0047
RR3 27K
RC2 0.001
RC4 33/16
RR4 22K
RVR1 20KB
E-F BALANCE
RC14 330/10
RR10 1K
RR8 100K
RR9 10K
RC9 0.01
RC8 0.47/50
RQ2 KSR1003
RC7 0.01
RC6 0.01
RR6 1K
RIC1 KA9201(RF AMP)
RFI
RFO
RF
P/N
LD
PD
PD1
PD2
VC
F
E
EO
EI
VR
CC2
VCC
LD ON
FOK
EFM
ASY
D GND
CB
CP
MIRROR
DFCT
TE
FE
FE B
VEE
CC1
RVR2 20KB FOCUS BIAS
RVR3 20KB FOCUS GAIN
RR11 22K
RVR4 20KB TRACKING GAIN
RC11 0.0022
RR7 150K
RC15 100/10
RC5 0.033(M)
RC12 0.0068
RC10 0.0022
RC13 0.047
RC16 220/10
RC17 0.047
CHASSIS GND
D
C
B
A
GND
COM
E
F
LD
GND
PD
VR
F-
T+
T-
F+
F.COIL
T.COIL
AR5 82
BIC1 BA6294
BIC2 BA6294
T-
T+
T IN
MUTE
F IN
F+
F-
BR2 56K
BR3 33K
BR14 33K(F)
BR6 33K(F)
BR7 22K(F)
BR8 33K(F)
BR9 22K(F)
BR10 3.3K(F)
BR11 2.2K(F)
BR15 22K(F)
BR13 22K(F)
BR12 33K(F)
BC4 100/10
BR5 33K
BC2 10P
BR4 33K
BC1 10P
SP-
SP+
SP IN
SL IN
SL+
SL-
SPINDLE MOTOR
SLED MOTOR
LIMIT S/W
DOOR MOTOR
SP+
SP-
SL+
SL-
LIMIT
+5V
DOOR
SR18 100K
SIC1(SSP) KA9309
CV (2.5)
HFGD (2.5)
FS (2.5)
LFR (2.5)
FSEO (2.5)
FSEI (2.5)
FSCH (2.8)
RTG (2.5)
TG (2.5)
AVCC (5)
TKEO (2.5)
TKEI (2.5)
FCE
ATS
TZC
TKE
DFT
DVEE
MIR
FOK
WDCK
SPDLO
SPDLI
DVCC
(0) FSW
(0) MON
(0) MDP
(0) LOCK
(2.5) 864M
(3.5) 3.5V
(2.2) FVC
(2.2) ISET
(2.9) DPI
(2.9) BPF
(0) DGND
(5) SCLK
SLEN
SLEO
SLEI
STOP
FSET
SENS
AVEE
CNO
DRCT
REST
SDATA
SLOAD
SR17 47K
SR16 1M
SC15 0.47/50
SR15 8.2K
SC14 0.033(M)
SC13 0.001
SR14 100K
SR13 2.2K
SVR1 2KB
SR12 160K
SR11 10K
SC12 33/16
SC10 4.7/50
SQ1 KSR1007
SC11 1/50
SC9 0.0047
SR8 100K
SR10 10K
SC2 0.1(M)
SC1 0.1(M)
SR1 100K(F)
SC3 4.7/50
SC4 0.1(M)
SR2 47K
SC5 0.33/50
SR4 68K
SR3 120K
SC6 0.47/50
SC7 10/16
SR5 47K
SC8 47P
SR6 68K
SR9 470K
SR7 6.8K
UR23 4.7K
UQ10 KSR1007
UR22 100K
UQ3 KSC2331
UR13 1K
UD13 1SS53
UD9 1SS53
XC10 0.047
CHASSIS GND
SQ2 KSR1003
XB1
XD2 1SS53
XD1 1SS53
DIGITAL FILTER
SM5807
IIC1
XT
XT
CKSL
CKO
LRCI
DIN
BCKI
VSS
VDD
BCKO
LRCK
WDCK
DOUT
DGL
DGR
SCSL
D/A CONVE
KDA0316
LOUT
VREFH1
VREFH2
VDD
WDCK2
LRCK
WDCK1
DATA
BCLK
VDD
DR1 100K(F)
DR2 100K(F)
DR3 1K
DC1 0.047
DC2 0.047
CHCK
WDCK
DATA
BCLK
SMEF
SMON
SMPD
SMSD
EFMI
EFMO
LOCK
VCOO
VCOI
TEST
PHAS
VSS
MCK
MLT
MDAT
XRST
TRCK
ISTAT
MUTE
SQCK
SBCK
SDAT
SQOT
SOS1
SQCK
SQEN
SRAM
UL1 220UH
UR1 22K
UD1
UC2 33P
UC1 33P
UC9 0.01
UD18,19 1SS53X4
UR25 10K
UD15 1SS53
UD14 1SS53
UR8
(S.CLK)
(RES)

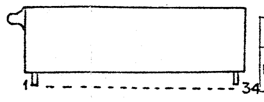

J
K
L
M
N
O
FILTER
D/A CONVERTOR
KDA0316
XIC2
XD2 1SS53
XD1 1SS53
XC1R 0.1
XC1L 0.1
XR1R 1M
XR1L 1M
XD3 1SS53
XC3R 0.0012
XR2R 27K
XC2R 4.7/50
XR4R 1M
XR5R 12K
XR3R 27K
XR6R 5.6K
XC4R 0.0015
XC6R 10/16
XR8R 5.6K
XR7R 5.6K
XC5R 330P
XR9R 100K
XR10R 1K
XIC3
KA9270
AUDIO FILTER
BUFFER1
BUFFER2
DE-AMP1
DE-AMP2
DE-EM SW
MUTE SW
LPF1
LPF2
XC2L 4.7/50
XR2L 27K
XR3L 27K
XR6L 5.6K
XR4L 1M
XR5L 12K
XC3L 0.0012
XR7L 5.6K
XC5L 330P
XR8L 5.6R
XC6L 10/16
XR10L 1K
XR9L 100K
XC4L 0.0015
XC7 47/10
XC8 100/10
XC9 473P
XIC4
MC78L006
GND
OUT
IN
14.5
CW11
GND
PCK
XR11 2.2K
XC11 0.15/50
DC5 100/10
DC6 0.01
DR1 100K(F)
DR2 100K(F)
DR3 1K
DC1 0.047
DC2 0.047
DIC1
KS5990/59910
(DSP)
DC4 33P
DR4 1M
DC3 33P
DX1 16.9344MHZ
DQ1 KSR1003
DC7 10/16
AIC1
MC7805
AC2 220/10
AC1 2200/25
AIC2
MC7808
DR5 10K
CW5
L-CH
A.GND
R-CH
D.GND
D+
FL.AC
FL.AC
FL.VP
CW6
TU.CTRL
RES
SNS
CD.RQ
DATA(SYS)
CE(SYS)
CLK(SYS)
RQ(DECK)
CLK(DECK)
SO(DECK)
SI(DECK)
UL1 220UH
UR1 22K
UD1 1SS53

3.CD PLAY SECTION

J2	XIC1 (SM5807)
K2	XIC2 (KDA0316)
N6	AIC2 (MC7808)
O3	XIC4 (MC78L006)
D2	RIC1 (KA9201)
N5	AIC1 (MC7805)
O2	XIC3 (KA9270)
C4, C6	BIC1, BIC2 (BA6294)
G9	UIC1 (LC866012A-5260)
M8	FLT1 (10BT-100GK)
G5	SIC1 (KA8309)

●TR	LOCATION
J8,E8	UQ2,9
C8,C8	UQ6,7
C1	RQ1
C9,C9,E8	UQ4,5,8
D7	UQ3
J8,M6,I3,G2	UQ1,DQ1,SQ2,RQ2
I5,E7	SQ1,UQ10

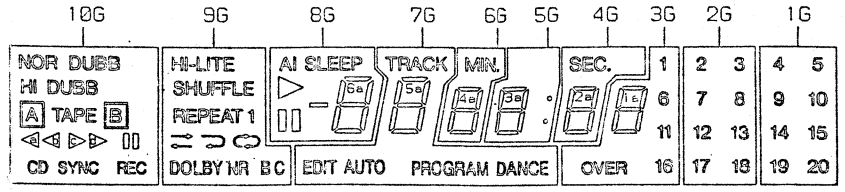
- 10BT-100GK(V.F-DISPALY) ; FLT1



PIN CONNECTION

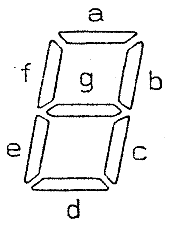
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
CONNECTION	F1	F1	NP	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	NC	NC	NC	NC	NC

PIN NO	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
CONNECTION	NC	NC	NC	NC	NC	NC	NC	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	F2	F2


10G
9G
8G
7G
6G
5G
4G
3G
2G
1G
NOR DUBB
HI DUBB
A TAPE B
CD SYNC
REC
HI-LITE
SHUFFLE
REPEAT 1
DOLBY NR
B C
AI SLEEP
TRACK
MIN.
SEC.
6a
5a
4a
3a
2a
1a
EDIT AUTO
PROGRAM DANCE
OVER
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

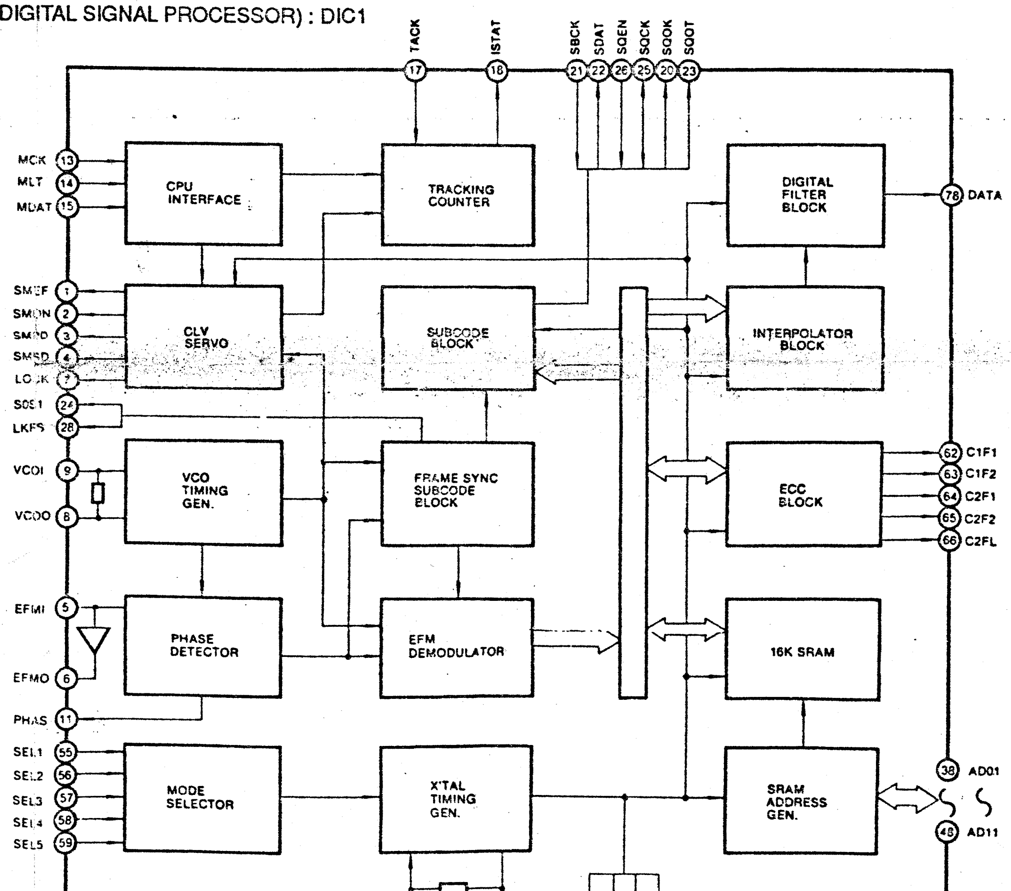
ANODE CONNECTION

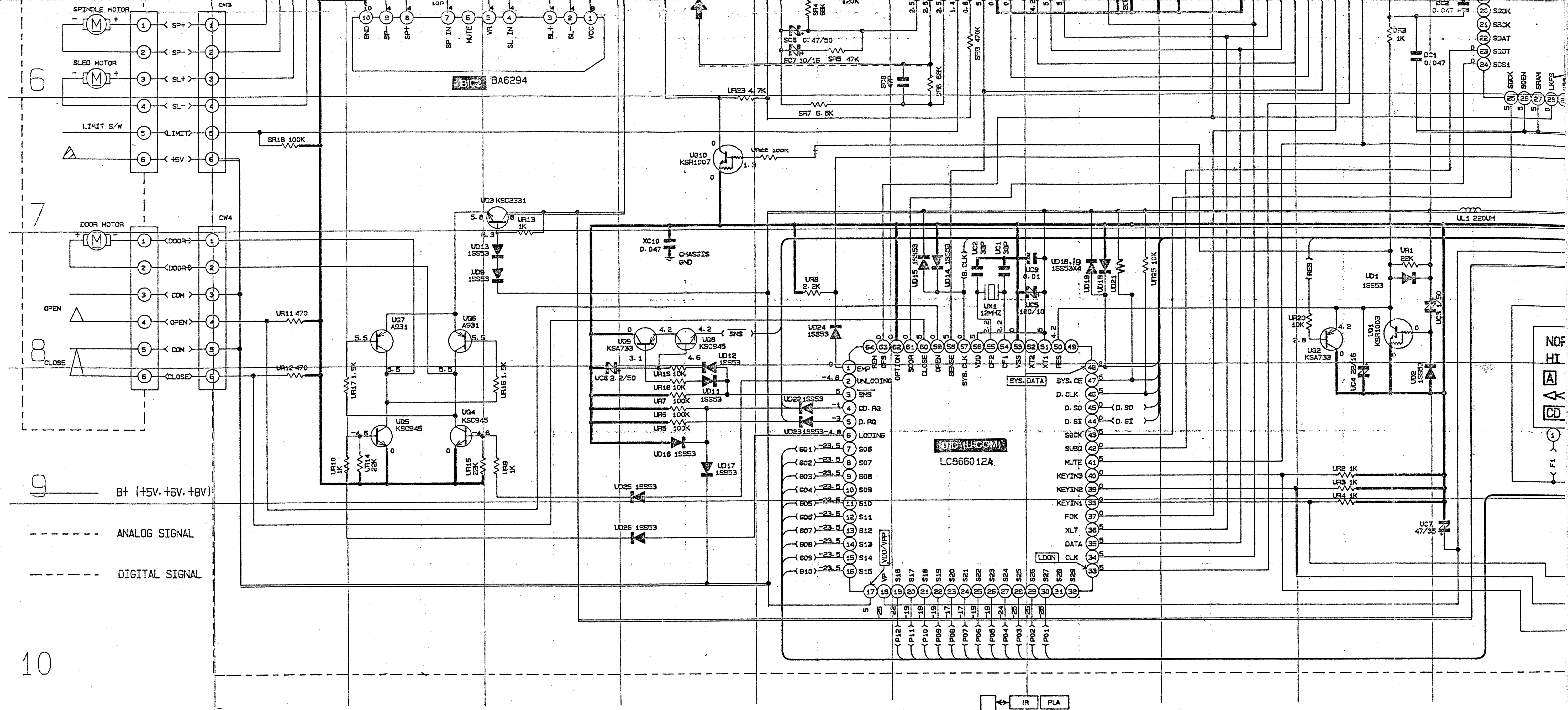
	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	NOR DUBB	HI-LITE	AI SLEEP	TRACK	MIN.	:	SEC.	1	2	4
P2	HI DUBB	SHUFFLE	▷	EDIT	-	-	-	6	7	9
P3	A TAPE B	REPEAT	][	AUTO	-	-	-	11	12	14
P4	(A)	1	−	PROGRAM	-	-	-	16	17	19
P5	(B)	⇄	6a	5a	4a	3a	2a	1a	3	5
P6	(a)◁	⊃	6b	5b	4b	3b	2b	1b	8	10
P7	(b)◁	⊂⊃	6c	5c	4c	3c	2c	1c	13	15
P8	▷(c)	DOLBY NR	6d	5d	4d	3d	2d	1d	18	20
P9	▷(d)	B	6e	5e	4e	3e	2e	1e	-	-
P10	▯▯	C	6f	5f	4f	3f	2f	1f	-	-
P11	CD SYNC	-	6g	5g	4g	3g	2g	1g	-	-
P12	REC	-	-	DANCE	-	-	-	OVER	-	-



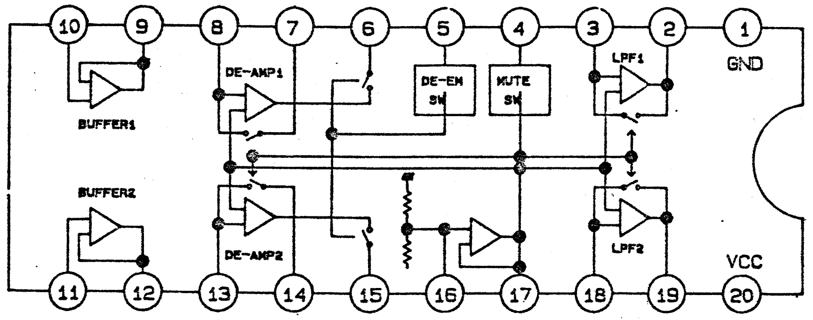
(8G~3G)

- KS5990/KS59910 (DIGITAL SIGNAL PROCESSOR) : DIC1

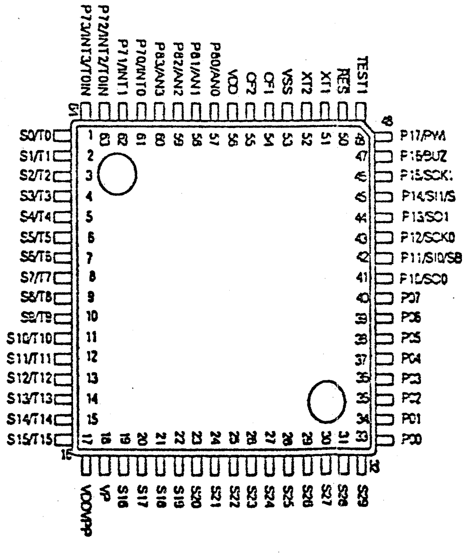

TACK 17
ISTAT 18
SBCK 21
SDAT 22
SQEN 26
SQCK 25
SQOK 20
SQOT 23
MCK 13
MLT 14
MDAT 15
SMEF 1
SMON 2
SMPD 3
SMSD 4
LOCK 7
SOS1 24
LKFS 28
VCOI 9
VCOO 8
EFMI 5
EFMO 6
PHAS 11
SEL1 55
SEL2 56
SEL3 57
SEL4 58
SEL5 59
CPU INTERFACE
TRACKING COUNTER
DIGITAL FILTER BLOCK
CLV SERVO
SUBCODE BLOCK
INTERPOLATOR BLOCK
VCO TIMING GEN.
FRAME SYNC SUBCODE BLOCK
ECC BLOCK
PHASE DETECTOR
EFM DEMODULATOR
16K SRAM
MODE SELECTOR
X'TAL TIMING GEN.
SRAM ADDRESS GEN.
78 DATA
62 C1F1
63 C1F2
64 C2F1
65 C2F2
66 C2FL
39 AD01
48 AD11

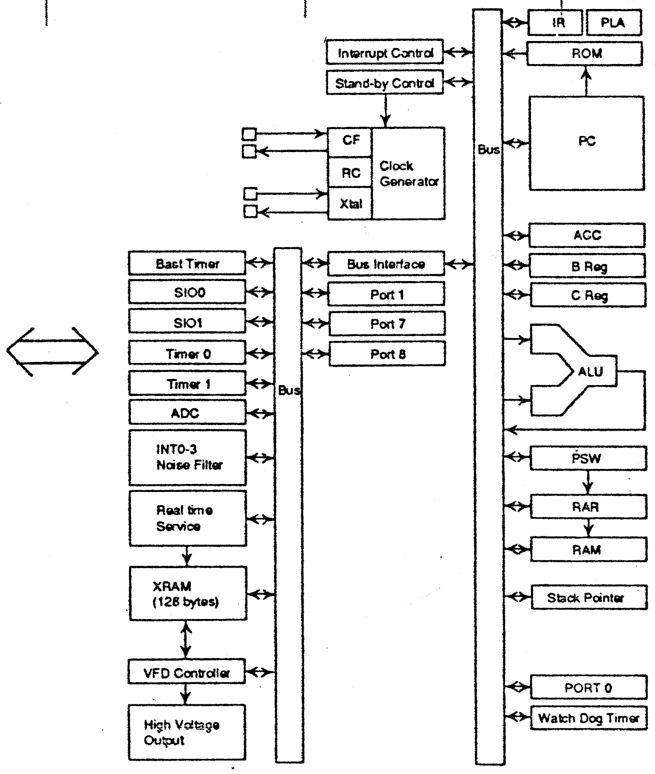

6
7
8
9
10
SPINDLE MOTOR
SLED MOTOR
LIMIT S/W
DOOR MOTOR
OPEN
CLOSE
SP+
SP-
SL+
SL-
LIMIT
+5V
DOOR
COM
CW3
CW4
SR18 100K
BIC2 BA6294
GND
SP IN
MUTE
VR
SL IN
VCC
UQ3 KSC2331
UR13 1K
UD13 1SS53
UD9 1SS53
UQ7 A931
UQ6 A931
UQ5 KSC945
UQ4 KSC945
UR11 470
UR12 470
UR17 1.5K
UR16 1.5K
UR14 22K
UR15 22K
UR10 1K
UR9 1K
B+ (+5V, +6V, +8V)
ANALOG SIGNAL
DIGITAL SIGNAL
UQ10 KSR1007
UR22 100K
UR23 4.7K
SR7 6.8K
SR5 47K
SR6 68K
SR3 470K
SC6 0.47/50
SC7 10/16
XC10 0.047
CHASSIS GND
UQ9 KSA733
UQ8 KSC945
SNS
UC8 2.2/50
UR19 10K
UR18 10K
UR7 100K
UR5 100K
UR6 100K
UD12 1SS53
UD11 1SS53
UD16 1SS53
UD17 1SS53
UD25 1SS53
UD26 1SS53
UD22 1SS53
UD23 1SS53
UD24 1SS53
UR8 2.2K
UD15 1SS53
UD14 1SS53
UC2 33P
UC1 33P
UX1 12MHZ
UC9 0.01
UC5 100/10
UD18,19 1SS53X4
UD21
UR25 10K
UIC1(U-COM)
LC866012A
EMP
UNLODING
SNS
CD.RQ
D.RQ
LODING
S06
S07
S08
S09
S10
S11
S12
S13
S14
S15
VDD/VPP
SYS.DATA
SYS.CE
D.CLK
D.SO
D.SI
SQCK
SUBQ
MUTE
KEYIN3
KEYIN2
KEYIN1
FOK
XLT
DATA
CLK
LDON
OPTION
SCOR
CLOSE
OPEN
SENSE
SYS.CLK
RES
UL1 220UH
UR1 22K
UD1 1SS53
UR20 10K
UQ2 KSA733
UQ1 KSR1003
UC3 1/50
UC4 22/16
UD2 1SS53
UR2 1K
UR3 1K
UR4 1K
UC7 47/35
DR3 1K
DC1 0.047
DC2 0.047
SQCK
SBCK
SDAT
SQOT
SOS1
NOR
HI
CD
F1

● KA9270(AUDIO FILTER IC) : XIC3

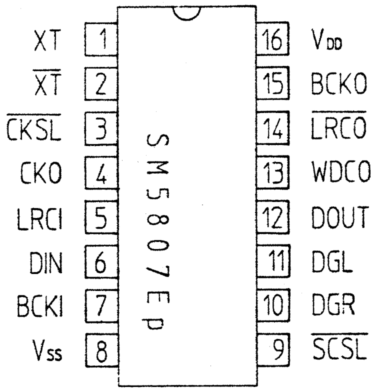

BUFFER1
BUFFER2
DE-AMP1
DE-AMP2
DE-EM SW
MUTE SW
LPF1
LPF2
GND
VCC
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

● LC866012A (CPU IC) : UIC1

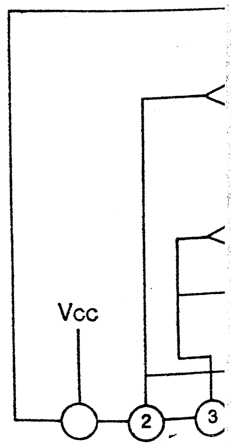

S0/T0
S1/T1
S2/T2
S3/T3
S4/T4
S5/T5
S6/T6
S7/T7
S8/T8
S9/T9
S10/T10
S11/T11
S12/T12
S13/T13
S14/T14
S15/T15
P17/PWM
P16/BUZ
P15/SCK1
P14/SI1/S
P13/SO1
P12/SCK0
P11/SI0/SB
P10/SO0
P07
P06
P05
P04
P03
P02
P01
P00
TEST1
RES
XT1
XT2
VSS
CF1
CF2
VDD
P80/AN0
P81/AN1
P82/AN2
P83/AN3
P70/INT0
P71/INT1
P72/INT2/T0IN
P73/INT3/T0IN
VDD/VPP
VP
S16
S17
S18
S19
S20
S21
S22
S23
S24
S25
S26
S27
S28
S29

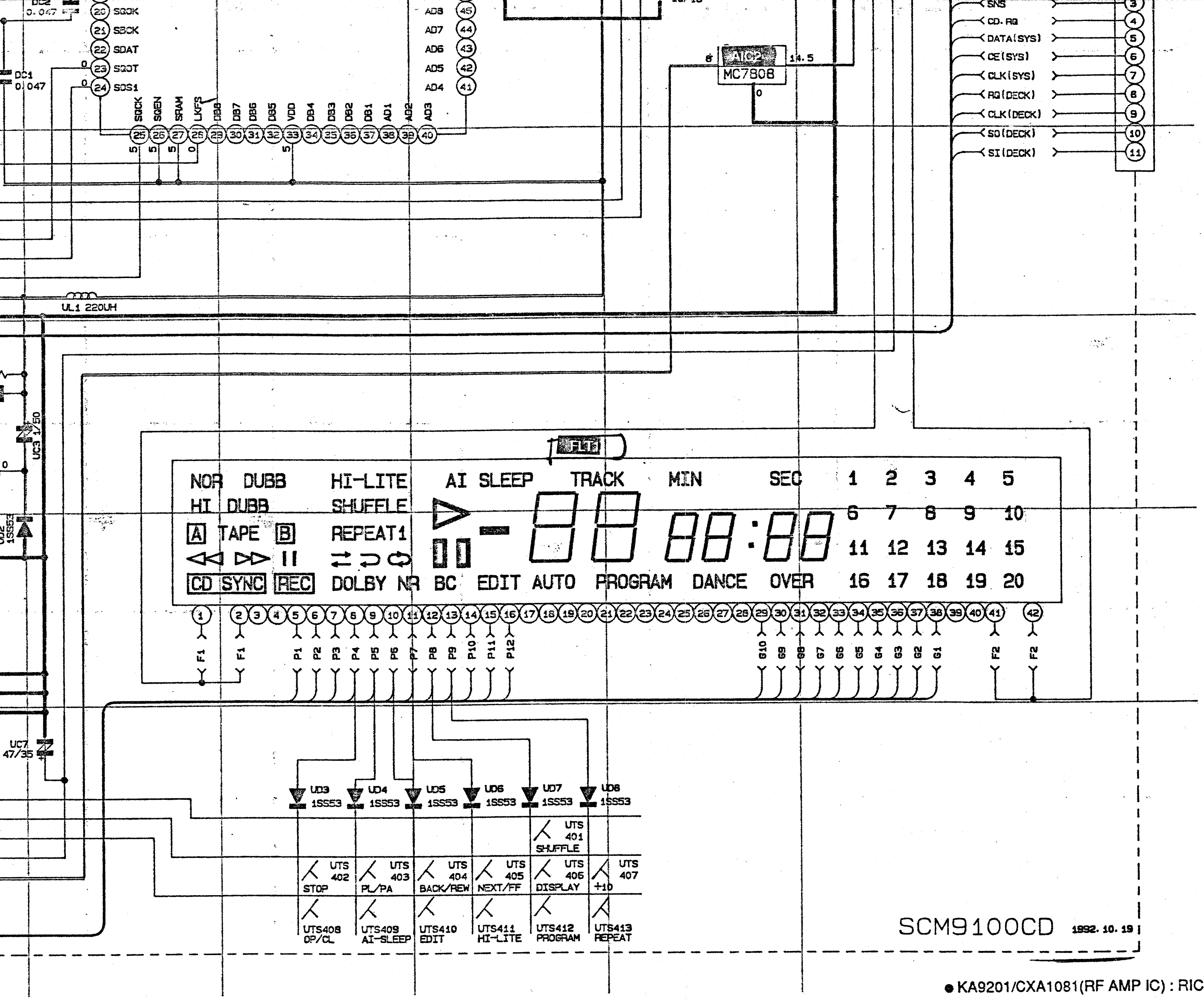

Interrupt Control
Stand-by Control
CF
RC
Xtal
Clock Generator
Base Timer
SIO0
SIO1
Timer 0
Timer 1
ADC
INT0-3 Noise Filter
Real time Service
XRAM (128 bytes)
VFD Controller
High Voltage Output
Bus
Bus Interface
Port 1
Port 7
Port 8
IR
PLA
ROM
PC
ACC
B Reg
C Reg
ALU
PSW
RAR
RAM
Stack Pointer
PORT 0
Watch Dog Timer

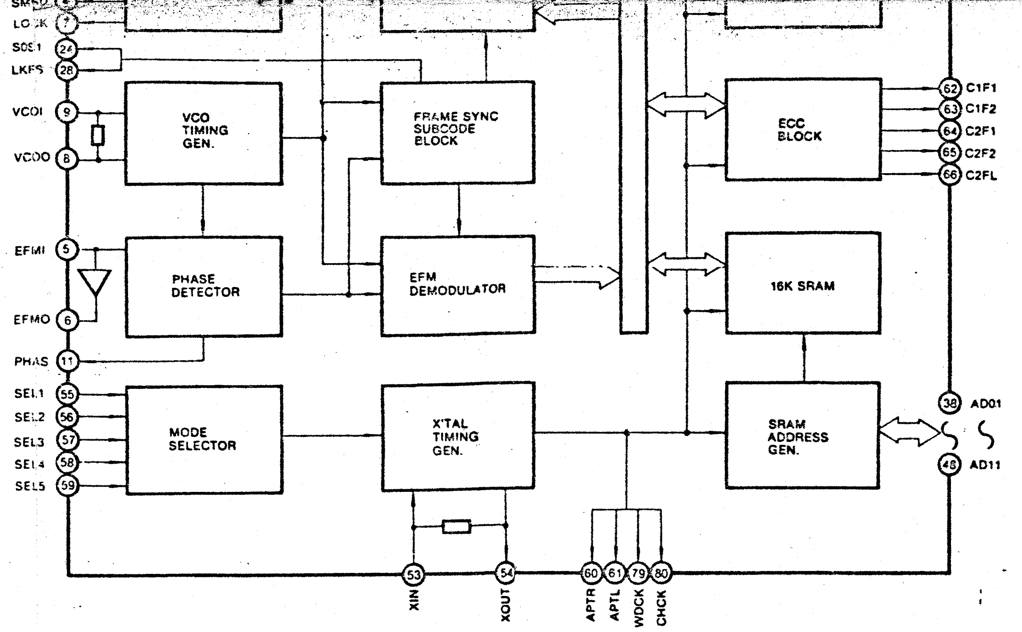
● SM5807(DIGITAL FILTER) : XIC1


XT 1
XT 2
CKSL 3
CKO 4
LRCI 5
DIN 6
BCKI 7
Vss 8
16 VDD
15 BCKO
14 LRCO
13 WDCO
12 DOUT
11 DGL
10 DGR
9 SCSL
SM5807EP

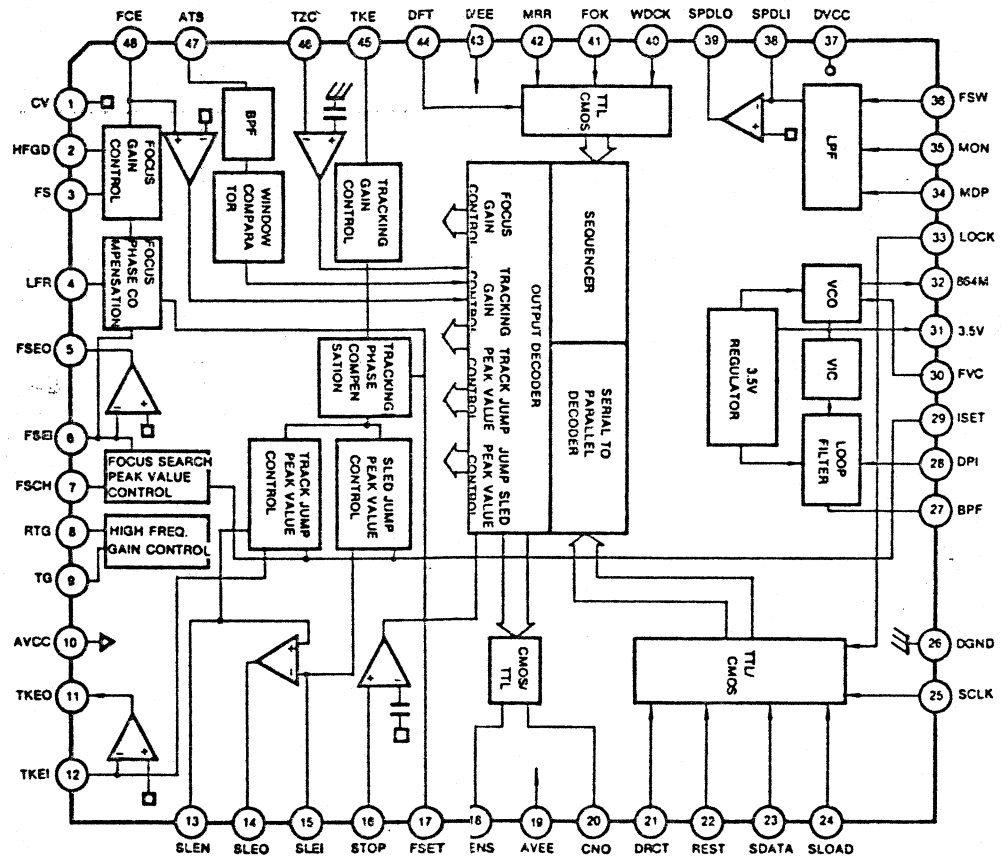
● BA6294(CD-BTL I



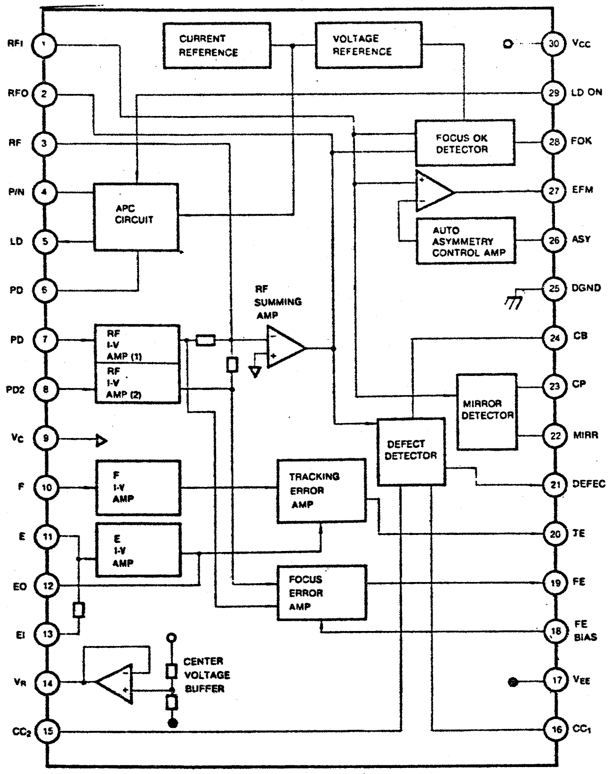

SQCK
SBCK
SDAT
SQOT
SOS1
DC1
0.047
AD8
AD7
AD6
AD5
AD4
AIC2
MC7808
14.5
SNS
CD. RQ
DATA(SYS)
CE(SYS)
CLK(SYS)
RQ(DECK)
CLK(DECK)
SO(DECK)
SI(DECK)
UL1 220UH
UC3 1/50
UC7 47/35
1SS53
FLT
NOR DUBB
HI DUBB
HI-LITE
SHUFFLE
REPEAT1
AI SLEEP
TRACK
MIN
SEC
A TAPE B
CD SYNC REC
DOLBY NR
BC
EDIT
AUTO
PROGRAM
DANCE
OVER
F1
F2
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
P12
G10
G9
G8
G7
G6
G5
G4
G3
G2
G1
UD3
UD4
UD5
UD6
UD7
UD8
UTS 401 SHUFFLE
UTS 402 STOP
UTS 403 PL/PA
UTS 404 BACK/REW
UTS 405 NEXT/FF
UTS 406 DISPLAY
UTS 407 +10
UTS408 OP/CL
UTS409 AI-SLEEP
UTS410 EDIT
UTS411 HI-LITE
UTS412 PROGRAM
UTS413 REPEAT
SCM9100CD
1992. 10. 19


LOCK
SOS1
LKFS
VCOI
VCOO
EFMI
EFMO
PHAS
SEL1
SEL2
SEL3
SEL4
SEL5
VCO TIMING GEN.
FRAME SYNC SUBCODE BLOCK
ECC BLOCK
PHASE DETECTOR
EFM DEMODULATOR
16K SRAM
MODE SELECTOR
X'TAL TIMING GEN.
SRAM ADDRESS GEN.
C1F1
C1F2
C2F1
C2F2
C2FL
AD01
AD11
XIN
XOUT
APTR
APTL
WDCK
CHCK

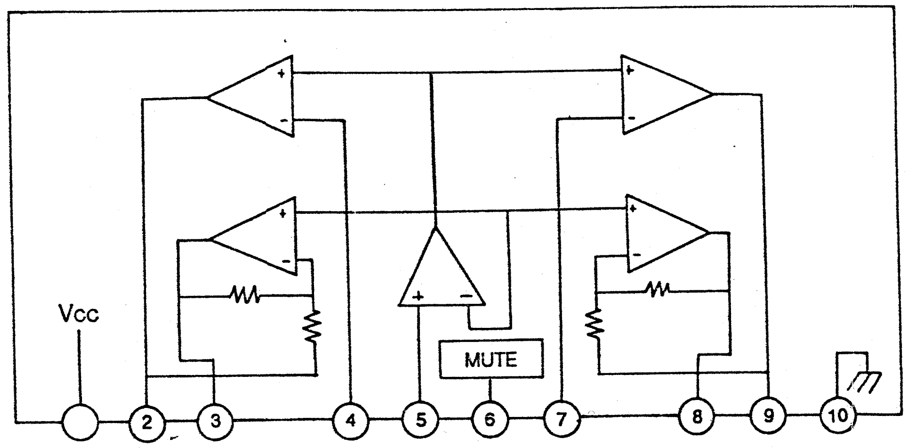
● KA8309(SS PROCESSOR IC) : SIC1


FCE
ATS
TZC
TKE
DFT
DVEE
MRR
FOK
WDCK
SPDLO
SPDLI
DVCC
CV
HFGD
FS
LFR
FSEO
FSEI
FSCH
RTG
TG
AVCC
TKEO
TKEI
FOCUS GAIN CONTROL
BPF
WINDOW COMPARATOR
TRACKING GAIN CONTROL
TTL CMOS
LPF
FOCUS PHASE COMPENSATION
TRACKING PHASE COMPENSATION
FOCUS GAIN CONTROL
TRACKING GAIN CONTROL
TRACK JUMP PEAK VALUE CONTROL
JUMP SLED PEAK VALUE CONTROL
OUTPUT DECODER
SEQUENCER
SERIAL TO PARALLEL DECODER
3.5V REGULATOR
VCO
VIC
LOOP FILTER
FOCUS SEARCH PEAK VALUE CONTROL
HIGH FREQ. GAIN CONTROL
TRACK JUMP PEAK VALUE CONTROL
SLED JUMP PEAK VALUE CONTROL
CMOS/ TTL
TTL/ CMOS
FSW
MON
MDP
LOCK
864M
3.5V
FVC
ISET
DPI
BPF
DGND
SCLK
SLEN
SLEO
SLEI
STOP
FSET
ENS
AVEE
CNO
DRCT
REST
SDATA
SLOAD

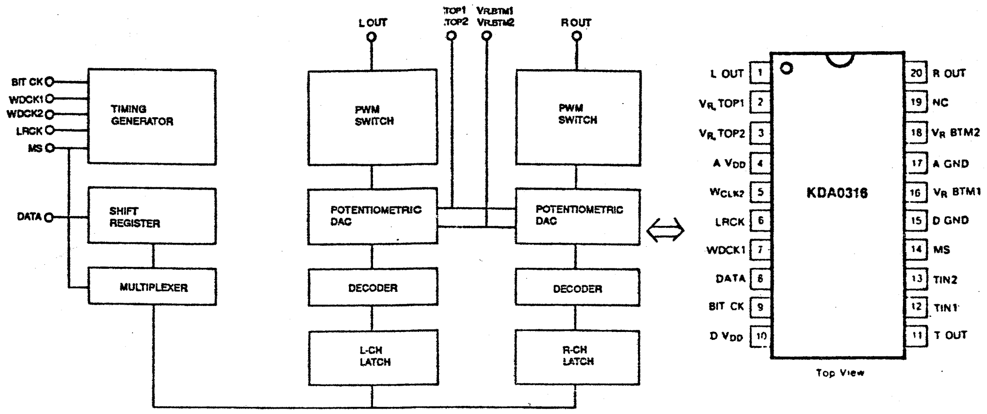
● KA9201/CXA1081(RF AMP IC) : RIC1


RFI
RFO
RF
PIN
LD
PD
PD
PD2
Vc
F
E
EO
EI
VR
CC2
CURRENT REFERENCE
VOLTAGE REFERENCE
FOCUS OK DETECTOR
APC CIRCUIT
AUTO ASYMMETRY CONTROL AMP
RF SUMMING AMP
RF I-V AMP (1)
RF I-V AMP (2)
MIRROR DETECTOR
DEFECT DETECTOR
F I-V AMP
E I-V AMP
TRACKING ERROR AMP
FOCUS ERROR AMP
CENTER VOLTAGE BUFFER
Vcc
LD ON
FOK
EFM
ASY
DGND
CB
CP
MIRR
DEFEC
TE
FE
FE BIAS
VEE
CC1

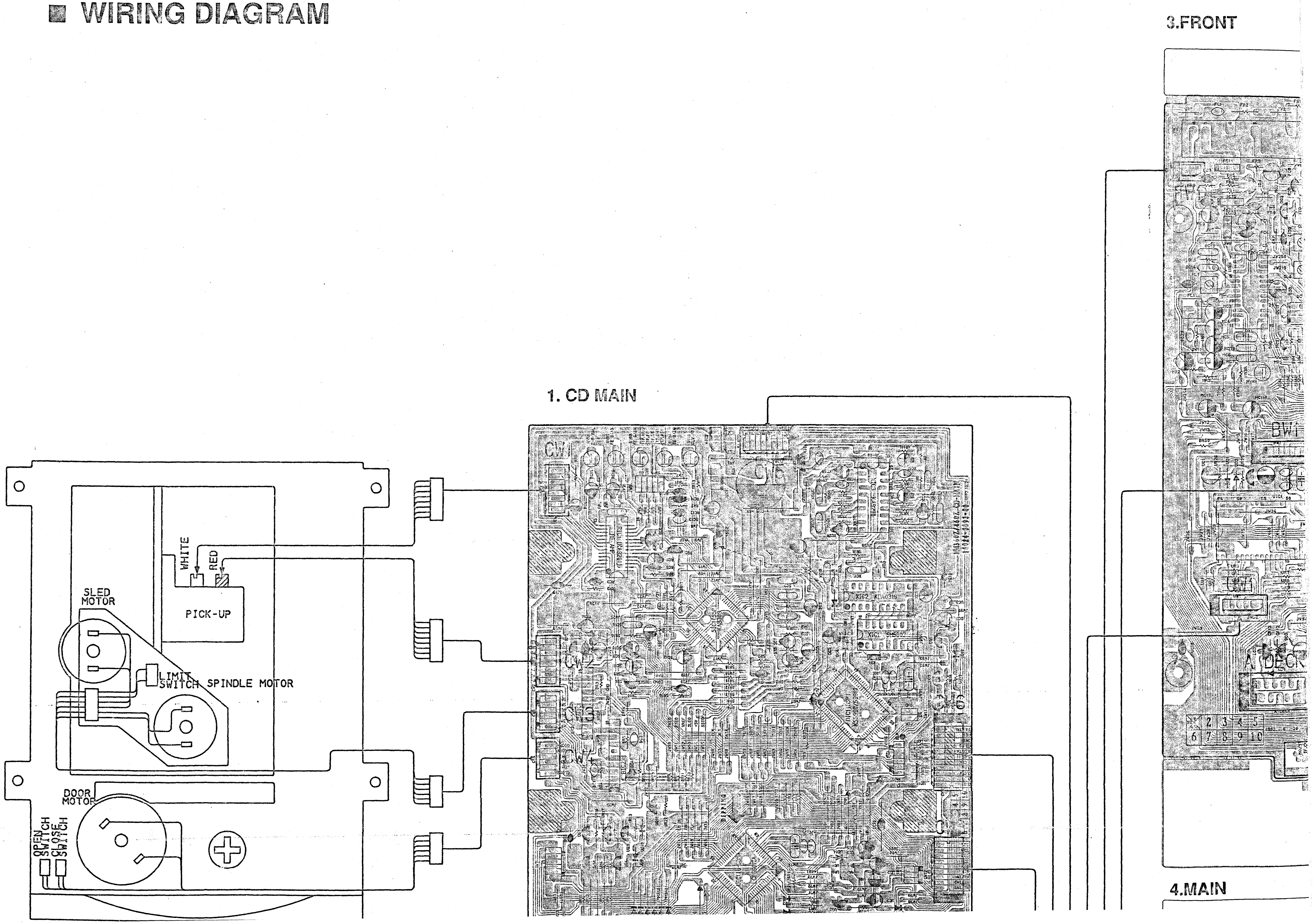
● BA6294(CD-BTL DRIVER IC) : BIC1, 2


Vcc
MUTE
1
2
3
4
5
6
7
8
9
10

● KDA0316LN(D/A CONVERTOR) : XIC2


BIT CK
WDCK1
WDCK2
LRCK
MS
DATA
TIMING GENERATOR
SHIFT REGISTER
MULTIPLEXER
L OUT
PWM SWITCH
POTENTIOMETRIC DAC
DECODER
L-CH LATCH
TOP1
TOP2
VRBTM1
VRBTM2
R OUT
R-CH LATCH
L OUT
VRL TOP1
VRL TOP2
A VDD
WCLK2
LRCK
WDCK1
DATA
BIT CK
D VDD
R OUT
NC
VR BTM2
A GND
VR BTM1
D GND
MS
TIN2
TIN1
T OUT
KDA0316
Top View

WIRING DIAGRAM



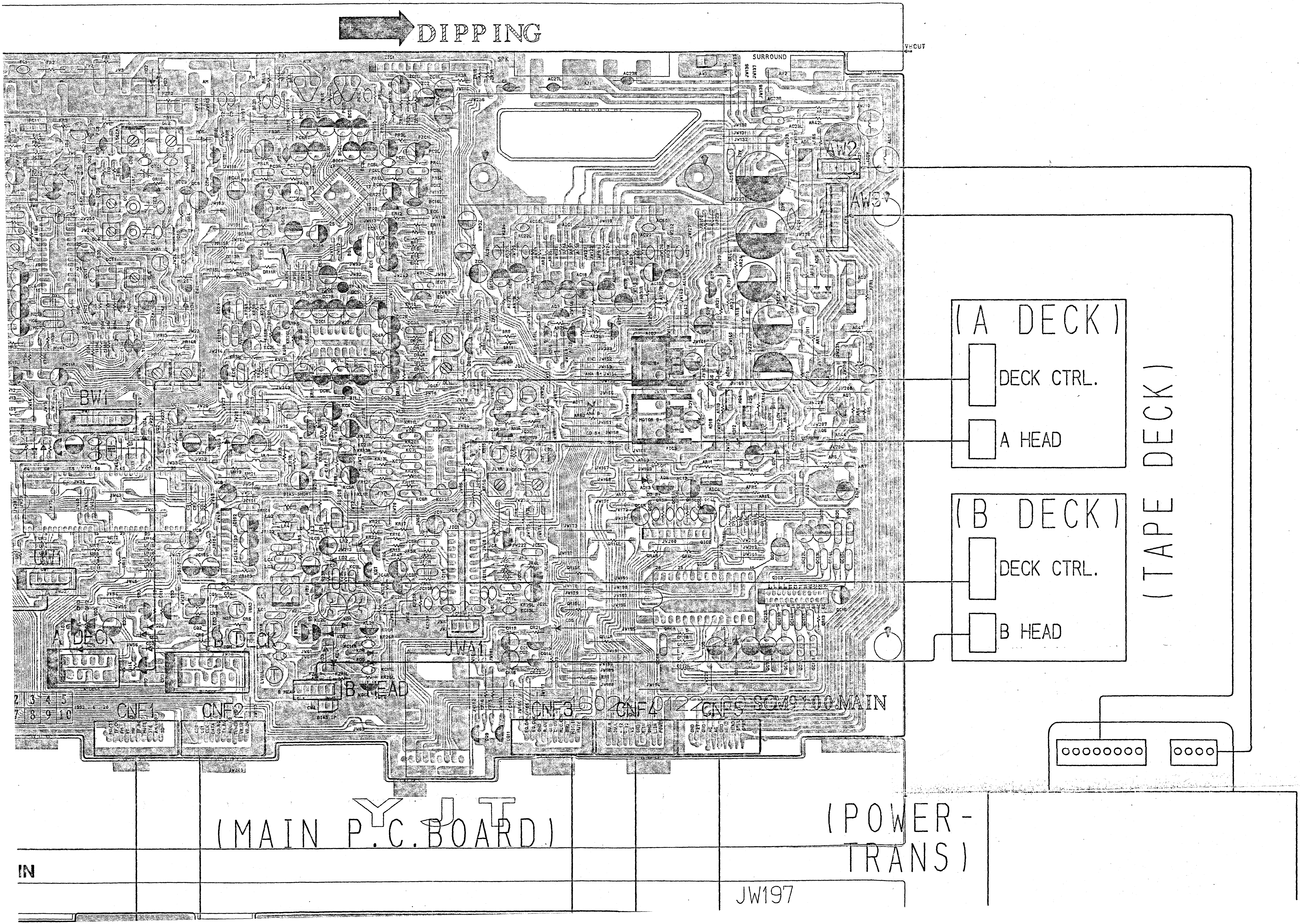
1. CD MAIN

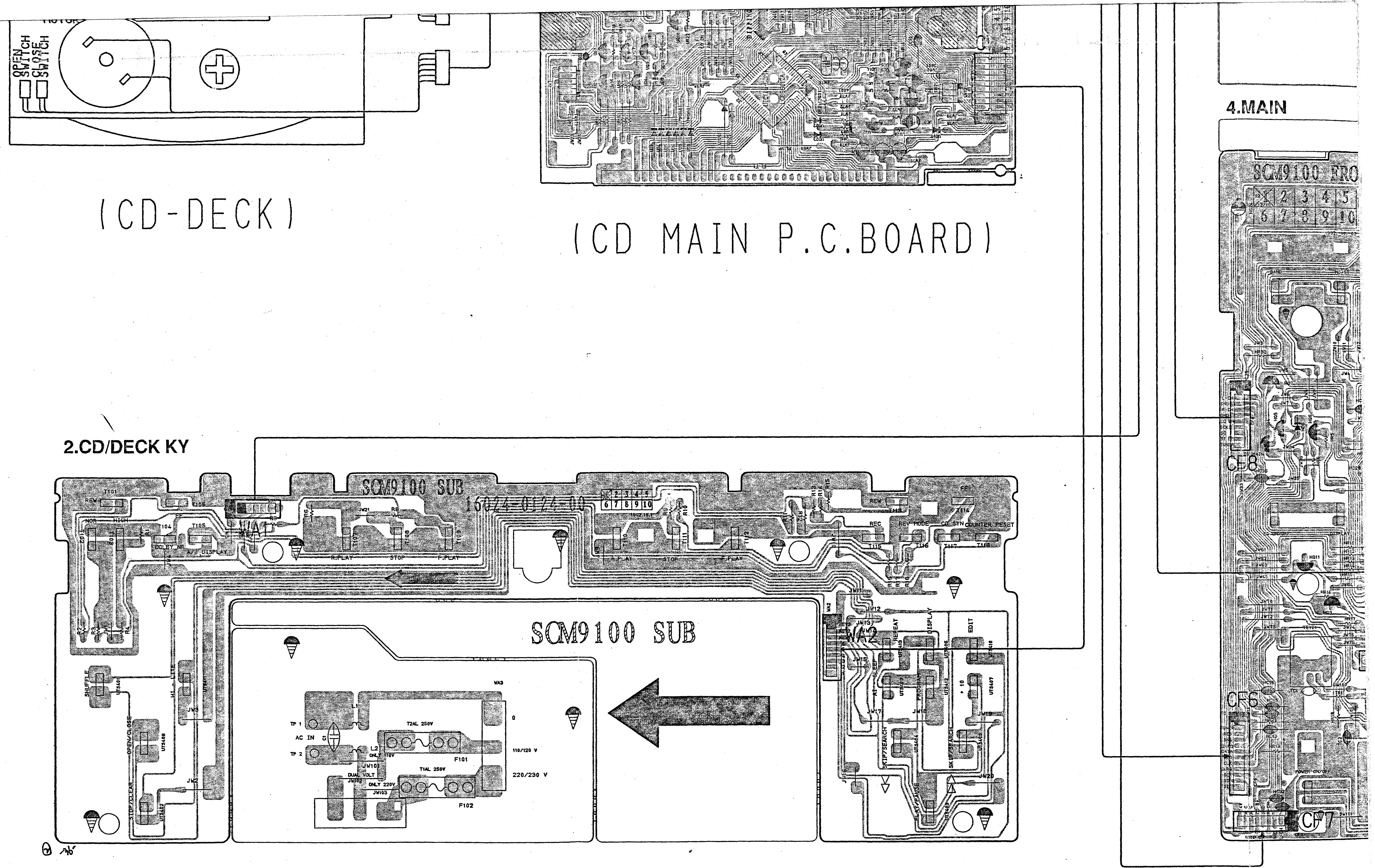
3.FRONT

4.MAIN

SLED MOTOR
PICK-UP
WHITE
RED
LIMIT SWITCH
SPINDLE MOTOR
DOOR MOTOR
OPEN SWITCH
CLOSE SWITCH
CW1
CW2
CW3
CW4
BW1
A DECK

RONT


DIPPING
VHOUT
SURROUND
SPK
PHONE
AW2
AW5
BW1
JWA1
A DECK
B DECK
B HEAD
CNF1
CNF2
CNF3
CNF4
CNF5
1602A0122 SGM9100.MAIN
(A DECK)
DECK CTRL.
A HEAD
(B DECK)
DECK CTRL.
B HEAD
(TAPE DECK)
(MAIN P.C.BOARD)
(POWER-TRANS)
JW197
IN


OPEN SWITCH
CLOSE SWITCH
SCM9100 SUB
16024-0124-00
SCM9100 FRO
WA1
WA2
WA3
CF6
CF7
CF8
REW
NOR
HIGH
DOLBY NR
A/B DISPLAY
R.PLAY
STOP
F.PLAY
REC
REV MODE
CD SYN
COUNTER RESET
SHUFFLE
OPEN/CLOSE
STOP/CLEAR
REPEAT
DISPLAY
EDIT
PROGRAM
SKIP/SEARCH
PLAY/PAUSE
AC IN
TP 1
TP 2
T2AL 250V
T1AL 250V
F101
F102
110/120 V
220/230 V
DUAL VOLT
POWER ON/OFF

(CD-DECK)

(CD MAIN P.C.BOARD)

4.MAIN

2.CD/DECK KY

(CD/DECK KEY P.C.BOARD)

ABBREVIATION LIST

AC	:	Alternating Current
Addr	:	Address
ADJ.	:	Adjustment
AGC	:	Automatic Gain Control
ALC	:	Automatic Level Control
AM	:	Amplitude Modulation
AMP	:	Amplifier
AMPS	:	Automatic Music program Search
ANT.	:	Antenna
ASSY	:	Assembly
BAL	:	Balance
BLK	:	BlacK
BLU	:	Blue
BPF	:	Band Pass Filter
BRKT	:	Bracket
CF	:	Ceramic Filter
ch	:	channel
cm	:	centimeter
COM	:	Common
CON MIC	:	Condenser Microphone
D	:	Depth
D/A Convertor	:	Digital/Analog Convertor
dB	:	deciBel
DC	:	Direct Current
DEC	:	Decoder
DET	:	Dicector
DEV	:	Deviation
DSP	:	Digital Signal Processor
DTS	:	Digital Tuning System
EA	:	Each
E-HEAD	:	Erase Head
EQ	:	Equalizer
FF	:	Fast Forward
F/F	:	Flip Flop
Fig	:	Figure
FM	:	Frequency Modulation
FREQ.	:	Frequency
GND	:	Ground
GRN	:	Green
GRY	:	Gray
H	:	Height, High
Hz	:	Hertz
IC	:	Integratde Circuit
IF	:	Intermediate Frequency
IFT	:	Intermediate Frequency Transformer
I/O	:	Input/Output
KHz	:	Killohertz
Kg	:	Killogram
L	:	Left, Low
LED	:	Light Emitting Diode
LPF	:	Low Pass Filter
LW	:	Long Wave
Max	:	Maximum
MHz	:	Megahertz
min	:	Minimum
MOD	:	Modulation
MPX	:	Multipiex
MW	:	Medium Wave
NF	:	Negative Feedback
OP AMP	:	Operational Amplifier
OSC	:	Oscillator
PB	:	Playback
PCB	:	Printed Circuit Board
PLL	:	Phase Lock Loop
P/T	:	Power Transformer
R	:	Right
RAM	:	Random Access Memory
REC	:	Record
REG	:	Regulator
REW	:	Rewind
RF	:	Radio Frequency
ROM	:	Read Only Memory
R/P	:	Record/Play
sec	:	Second
SSG	:	Standard Signal Generator
SSP	:	Servo Signal Processor
ST	:	Stereo
ST/EJT	:	Stop/Eject
SW	:	Switch, Short wave
TP	:	Test Point
TR	:	Transistor
TRANS	:	Transformer
V	:	Volt
VIO	:	Violet
VCO	:	Voltage Controlled Oscillator
VOL	:	Volume
Vpp	:	Voltage peak to peak
VR	:	Volume
Vref	:	Reference Voltage
V/SEL	:	Voltage selector
VTVM	:	Vaccum Tube Volt Meter
VVC	:	Voltage Variable Capacitance
W	:	Watt Weight
WHT	:	White
X	:	Crystal
YEL	:	Yellow